

Exhibit B

In the Matter Of:

In re Pork Antitrust Litigation

HAL SINGER

June 24, 2022



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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MINNESOTA

Civil Action No. 0:18-cv-01776-JRT-HB

IN RE:
PORK ANTITRUST LITIGATION,
_____/

DEPOSITION OF
HAL SINGER

Friday, June 24, 2022
9:39 a.m. - 6:03 p.m.

Remote Location
Via Zoom Videoconference
All Parties Remote

Stenographically Reported By:
Erica Field, FPR

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<p style="text-align: right;">Page 5</p> <p>1 Thereupon, 2 the proceedings began at 9:39 a.m.: 3 THE VIDEOGRAPHER: We are on the 4 record on June 24, 2022, at 5 approximately 9:39 a.m. Eastern Time 6 for the remote video deposition of Hal 7 Singer in the matter of In Re: Pork 8 Antitrust Litigation. 9 My name is Jacob Figueroa. I'm 10 the videographer on behalf of Lexitas. 11 All appearances will be noted on 12 the stenographic record. 13 Will the court reporter please 14 swear in the witness. 15 Whereupon, 16 HAL SINGER, 17 having been first duly sworn or affirmed, was 18 examined and testified as follows: 19 THE WITNESS: I do. 20 DIRECT EXAMINATION 21 BY MR. COLEMAN: 22 Q. Good morning. Can you state your 23 name for the record? 24 A. Hal Jason Singer. 25 Q. And just the first order of</p>	<p style="text-align: right;">Page 7</p> <p>1 appearance is in antitrust cases. 2 Q. And in those antitrust cases, how 3 many times have you submitted a report on 4 behalf of an antitrust plaintiff? 5 A. Oh, I don't have a count. I don't 6 have a count for you. 7 Q. Can you give me your best 8 estimate? 9 A. Well, you want a count of the 10 cases in which I've submitted a report on 11 behalf of a plaintiff in an antitrust case? 12 Q. And if it's easier, you can start 13 with how many times have you submitted a 14 report on behalf of an antitrust defendant? 15 A. On at least one occasion. I think 16 that Verizon was an antitrust defendant in a 17 case that I worked on. 18 Q. Any other cases come to mind in 19 which you submitted a report on behalf of an 20 antitrust defendant? 21 A. Not that I can think of, no. 22 Q. And so in every other antitrust 23 case in which you have submitted a report, 24 that report would have been on behalf of an 25 antitrust plaintiff; is that right?</p>
<p style="text-align: right;">Page 6</p> <p>1 business, we'll mark your expert report of 2 Dr. Hal Singer, which is Tab 1, as Exhibit 1. 3 (Exhibit 1 was marked for 4 identification.) 5 MR. COLEMAN: Jacob, you could 6 leave that up, if you want. 7 I will direct you around the 8 report if we need it or if Dr. Singer 9 needs it. 10 BY MR. COLEMAN: 11 Q. But I will note, Dr. Singer, on 12 Page 191 of your report, it looks like you 13 list about 50 cases in which you testified as 14 an expert since 2012. Is that right? 15 A. I haven't counted them, but 16 that's -- since 2012, but that sounds like a 17 reasonable estimate. 18 Q. And it appears that about half of 19 those involve antitrust claims. Is that a 20 reasonable approximation? 21 A. I think that it's more than half. 22 I think that the only other area where my 23 practice covers is consumer protection, and 24 I've done a few there, but certainly not 25 half. So I think the vast majority of my</p>	<p style="text-align: right;">Page 8</p> <p>1 A. Correct. 2 Q. In reviewing your experience, I 3 note that you have quite a bit of experience 4 identifying overcharges that you claim 5 resulted from antitrust misconduct; is that 6 right? 7 A. Oh, I don't claim it. I've been 8 asked to estimate overcharges. But, yes, 9 I've done -- I've estimated overcharges in 10 many cases. 11 Q. And do you consider identifying 12 and quantifying antitrust overcharges to be 13 an expertise of yours? 14 A. I think that quantifying damages 15 in antitrust matters is certainly an area of 16 expertise of mine, yes. 17 Q. And I'm specifically interested in 18 your expertise in identifying and quantifying 19 antitrust overcharges. 20 Is that an area of your expertise? 21 A. You keep saying "identifying." I 22 -- and I'm generally pushing back. I 23 wouldn't describe my expertise as 24 "identifying," but I'm certainly asked to 25 quantify damages that flow from an alleged</p>

<p style="text-align: right;">Page 9</p> <p>1 anticompetitive restraint. 2 Q. And to quantify an antitrust 3 overcharge, the overcharge needs to exist; is 4 that fair? 5 A. Yes. I think it's -- it goes 6 without saying that if there's no liability 7 or no violation, then there is no overcharge. 8 Q. In how many cases have you been 9 asked to opine on antitrust overcharge caused 10 by conduct challenged under the antitrust 11 laws? 12 MR. RISSMAN: Objection. Asked 13 and answered. 14 A. I don't -- I don't have a count 15 for you, but I think that in every antitrust 16 matter that I've testified in, there's been 17 an allegation of a violation of the -- of the 18 antitrust laws, whether they're federal 19 antitrust laws or state antitrust laws. 20 BY MR. COLEMAN: 21 Q. And in all of those cases, were 22 you asked to opine on the existence and the 23 amount of an antitrust overcharge? 24 MR. RISSMAN: Object to form. 25 A. Not in every case. In some cases,</p>	<p style="text-align: right;">Page 11</p> <p>1 BY MR. COLEMAN: 2 Q. And how many times has that 3 happened? 4 A. On a handful of occasions. 5 Q. How many times have you declined 6 to write an expert report because you were 7 unable to identify or quantify an antitrust 8 overcharge? 9 A. Like I said, it wouldn't -- it 10 wouldn't get to that. It wouldn't get to me 11 being retained and then studying the matter 12 more and not being able to do it. I have to 13 make that determination on the front end. 14 If I -- if I feel that there's a 15 plausible methodology that's reliable and it 16 is within my toolkit, then I will typically 17 accept the case and perform the requisite 18 analyses. The times that I've declined cases 19 is when I've decided up front that there was 20 something -- there was a problem with the 21 case. 22 Q. And did you do that analysis in 23 this case prior to your retention? 24 MR. RISSMAN: I'm going -- I'm 25 going to object as it's not asking for</p>
<p style="text-align: right;">Page 10</p> <p>1 I've been asked to opine only on matters 2 relating to liability in which the -- the 3 plaintiff has retained a separate expert to 4 do damages. I don't know if I'm going to be 5 able to cull up examples of that, but in most 6 cases, I will grant you that I'm asked to 7 examine issues relating to antitrust impact 8 and quantifying aggregate damages. 9 BY MR. COLEMAN: 10 Q. Have you ever declined an 11 engagement to testify because you were unable 12 to either identify or quantify an antitrust 13 overcharge? 14 MR. RISSMAN: Object to form. 15 A. Well, I've declined engagements 16 before, but I can't recall accepting 17 engagement and then discovering, you know, 18 midway through that I couldn't present an 19 estimate. I've -- the decision to go or 20 no-go has typically occurred at the front end 21 of the case. 22 If I think that the case doesn't 23 conform, you know, to my understanding or my 24 practice, I would turn down the case. 25</p>	<p style="text-align: right;">Page 12</p> <p>1 an opinion that he's given in this 2 case. It's asking for preliminary 3 analysis, and I will instruct the 4 witness not to answer. 5 THE WITNESS: Okay. 6 BY MR. COLEMAN: 7 Q. So in every case in which you were 8 retained to quantify an antitrust overcharge, 9 you were able to apply your expertise to -- 10 to do so, right? 11 A. Well, I think what you're asking 12 is tautological. I -- whenever I accepted a 13 matter, I wouldn't have done so unless I 14 thought I could apply my expertise. So when 15 you see the final product in cases that I 16 accepted, it naturally follows that I -- I 17 was able to apply my expertise. 18 Q. I'm not sure I see the tautology 19 here, Dr. Singer. I -- it strikes you as 20 unreasonable that once you've been retained, 21 dug through the facts, looked at the data, 22 that you might realize that the facts in the 23 record lead you to be unable to quantify an 24 antitrust overcharge? 25 MR. RISSMAN: Objection. Calls</p>

<p style="text-align: right;">Page 13</p> <p>1 for hypothetical.</p> <p>2 BY MR. COLEMAN:</p> <p>3 Q. Did that ever happen?</p> <p>4 MR. RISSMAN: I am sorry.</p> <p>5 Objection. Calls for</p> <p>6 hypothetical.</p> <p>7 A. When you put it that way, I can --</p> <p>8 I can conceive of that happening in a case.</p> <p>9 But I can't recall that happening in my</p> <p>10 experience; that is, I can't recall finding a</p> <p>11 case where, you know, the data were so</p> <p>12 unreliable, or there was no anticompetitive</p> <p>13 effects such that I -- I felt the need to</p> <p>14 pull out of the case. I can't -- I can't</p> <p>15 recall that happening in my experience.</p> <p>16 BY MR. COLEMAN:</p> <p>17 Q. So when you been retained, you dig</p> <p>18 into the data, and in every instance, you</p> <p>19 have been able to quantify an antitrust</p> <p>20 overcharge if asked to do so; is that right?</p> <p>21 A. Well, like I said, you're --</p> <p>22 you're skipping over a very important part,</p> <p>23 which is on the front end, if I make a</p> <p>24 determination that I'm not going to be able</p> <p>25 to -- to assess and quantify damages in a</p>	<p style="text-align: right;">Page 15</p> <p>1 witness.</p> <p>2 MR. COLEMAN: Well, he's not</p> <p>3 answering the question.</p> <p>4 MR. RISSMAN: Well, you can't</p> <p>5 interrupt him. You asked the same</p> <p>6 question over again, and so he's</p> <p>7 answered it.</p> <p>8 BY MR. COLEMAN:</p> <p>9 Q. The predicate of the question was</p> <p>10 upon retention. I didn't ask what you did</p> <p>11 before retention.</p> <p>12 MR. RISSMAN: Well, don't</p> <p>13 interrupt the witness again.</p> <p>14 MR. COLEMAN: Well, I will do it</p> <p>15 if he -- he needs to listen to the</p> <p>16 questions.</p> <p>17 MR. RISSMAN: If you are going</p> <p>18 to interrupt him, I am going to</p> <p>19 interrupt you, so it is not going to</p> <p>20 work.</p> <p>21 BY MR. COLEMAN:</p> <p>22 Q. Go ahead, Dr. Singer. Please</p> <p>23 answer the question.</p> <p>24 A. Are you saying that conditional on</p> <p>25 my assessing the case during the initial</p>
<p style="text-align: right;">Page 14</p> <p>1 reliable way, then I will pull out of the</p> <p>2 case in that moment.</p> <p>3 So I have not had an occasion yet</p> <p>4 where I've made that determination that</p> <p>5 damages would be feasible and reliably</p> <p>6 estimated and then reversed. I haven't done</p> <p>7 that. I will grant you that.</p> <p>8 Q. Yeah. And, again, my question was</p> <p>9 upon retention, in every case in which you</p> <p>10 have been retained as an expert to quantify</p> <p>11 overcharge, you have been able to dig into</p> <p>12 the record, apply your expertise and -- and</p> <p>13 identify and then quantify an overcharge --</p> <p>14 an antitrust overcharge; is that right?</p> <p>15 MR. RISSMAN: Object to form.</p> <p>16 A. I heard the question and I think I</p> <p>17 answered it -- I think I answered it just</p> <p>18 fine the last time. I will give you the same</p> <p>19 answer, which is that you're swiping over</p> <p>20 the -- an initial assessment --</p> <p>21 (Simultaneous unreportable</p> <p>22 crosstalk.)</p> <p>23 MR. RISSMAN: Don't interrupt</p> <p>24 the witness.</p> <p>25 No, you're not interrupting the</p>	<p style="text-align: right;">Page 16</p> <p>1 screening process and accepting the matter</p> <p>2 under the belief that I would, in fact, be</p> <p>3 able to -- to offer a reliable estimate of</p> <p>4 damages?</p> <p>5 I have gone forward and completed</p> <p>6 every instance where I have been retained,</p> <p>7 but I just want -- I think that's an</p> <p>8 important element to the question, and I just</p> <p>9 want the record to be clear that I'm not</p> <p>10 going to accept a case if I don't think that</p> <p>11 having studied it, the complaint, and met</p> <p>12 with the -- with the clients, if I don't</p> <p>13 think that there's something available there</p> <p>14 for me to dig into and to apply my skills,</p> <p>15 then I will -- I will pass on the case.</p> <p>16 Q. You understand that -- the Daubert</p> <p>17 standard, right?</p> <p>18 MR. RISSMAN: Objection. Calls</p> <p>19 for a legal conclusion.</p> <p>20 A. I have an understanding of the</p> <p>21 Daubert standard, yes.</p> <p>22 BY MR. COLEMAN:</p> <p>23 Q. And it's important to you to use</p> <p>24 reliable methods and submit economic analysis</p> <p>25 that meets the Daubert standard, right?</p>

<p style="text-align: right;">Page 17</p> <p>1 A. Yes.</p> <p>2 Q. You recognize that your opinions</p> <p>3 as an expert must be based on the facts in</p> <p>4 the case, right?</p> <p>5 A. Yes.</p> <p>6 Q. And you must account for the facts</p> <p>7 in the particular industry that you're</p> <p>8 analyzing, right?</p> <p>9 A. Yes.</p> <p>10 MR. RISSMAN: Object to form.</p> <p>11 A. Yes.</p> <p>12 BY MR. COLEMAN:</p> <p>13 Q. And the opinions that you form</p> <p>14 must be the product of reliable principals</p> <p>15 and methods, right?</p> <p>16 A. Yes.</p> <p>17 Q. And in the antitrust context, it's</p> <p>18 particularly important that expert economic</p> <p>19 analysis show that claimed damages were, in</p> <p>20 fact, caused by the unlawful acts of</p> <p>21 defendants rather than other factors such as</p> <p>22 unlawful -- such as lawful competition,</p> <p>23 right?</p> <p>24 MR. RISSMAN: Object to form.</p> <p>25 A. Well, causation is an important</p>	<p style="text-align: right;">Page 19</p> <p>1 unlawful acts of the defendant and did not</p> <p>2 result from some other factor such as lawful</p> <p>3 competition by the defendant.</p> <p>4 Do you see that?</p> <p>5 A. Yes.</p> <p>6 Q. And you agree with that, right?</p> <p>7 MR. RISSMAN: Objection. Calls</p> <p>8 for a legal conclusion.</p> <p>9 A. Yeah, that's consistent with what</p> <p>10 I told you, that it is the burden of the</p> <p>11 plaintiff, and it's sometimes my burden</p> <p>12 depending on my assignment.</p> <p>13 But, yes, I will grant you, it's</p> <p>14 always the burden of the plaintiff to</p> <p>15 establish causation.</p> <p>16 BY MR. COLEMAN:</p> <p>17 Q. And it's important for antitrust</p> <p>18 plaintiffs and economic analysis on behalf of</p> <p>19 antitrust plaintiffs to distinguish lawful</p> <p>20 from unlawful conduct, right?</p> <p>21 MR. RISSMAN: Object to form.</p> <p>22 A. For -- for plaintiffs to establish</p> <p>23 it, yes.</p> <p>24 BY MR. COLEMAN:</p> <p>25 Q. And you understand that economic</p>
<p style="text-align: right;">Page 18</p> <p>1 element for plaintiffs. I will grant you</p> <p>2 that. But it's not always within my domain</p> <p>3 to -- to assess causation. I have been asked</p> <p>4 sometimes to estimate damages under the</p> <p>5 assumption that someone else is going to</p> <p>6 establish causation.</p> <p>7 MR. COLEMAN: Can you please</p> <p>8 pull up Tab 6 and mark it as</p> <p>9 Exhibit 2?</p> <p>10 (Exhibit 2 was marked for</p> <p>11 identification.)</p> <p>12 THE WITNESS: Okay. I've got</p> <p>13 Tab 6 here.</p> <p>14 BY MR. COLEMAN:</p> <p>15 Q. And in Tab 6 -- what's been marked</p> <p>16 as Exhibit 2 is a case captioned Apotex, Inc.</p> <p>17 v. Cephalon, Inc.</p> <p>18 You're familiar with this case,</p> <p>19 right?</p> <p>20 A. Yes.</p> <p>21 Q. And if we go to Page 15 of the</p> <p>22 document, the second paragraph starting</p> <p>23 "however," states: However, the burden is</p> <p>24 placed upon the plaintiff to show that the</p> <p>25 damage claim was, in fact, caused by the</p>	<p style="text-align: right;">Page 20</p> <p>1 analysis that assumes away rational economic</p> <p>2 behavior by competitors is subject to</p> <p>3 exclusion under the Daubert standard, right?</p> <p>4 MR. RISSMAN: Objection. That</p> <p>5 calls for a legal conclusion.</p> <p>6 A. Yeah. I don't think I have an</p> <p>7 opinion on that.</p> <p>8 BY MR. COLEMAN:</p> <p>9 Q. Go to Page 23 of the document.</p> <p>10 And if we highlight the paragraph that starts</p> <p>11 with "accordingly."</p> <p>12 Accordingly, because Dr. Singer's</p> <p>13 calculation two assumes a but-for world for</p> <p>14 which there is no factual support, which</p> <p>15 requires assuming away rational economic</p> <p>16 behavior by competitors and measures damages</p> <p>17 in excess of Apotex's lost profits,</p> <p>18 calculation two will be excluded.</p> <p>19 Do you see that?</p> <p>20 A. Yes.</p> <p>21 Q. Did you disagree with the Court's</p> <p>22 assessment?</p> <p>23 A. No. In fact, during my</p> <p>24 deposition, I -- they asked me -- defense</p> <p>25 counsel asked me explicitly if I thought</p>

<p style="text-align: right;">Page 21</p> <p>1 there was an economic basis, and I explained</p> <p>2 that plaintiff's counsel had asked me to</p> <p>3 calculate damages under an alternative legal</p> <p>4 theory in which Apotex, the one generic that</p> <p>5 did not go along with the illegal scheme, was</p> <p>6 entitled to 100 percent of the ill-gotten</p> <p>7 gains of all conspiring generic defendants.</p> <p>8 I said during my deposition, there</p> <p>9 wasn't an economic basis for that, but</p> <p>10 counsel has instructed me as an alternative</p> <p>11 damages methodology -- that's why it's</p> <p>12 described there as calculation two -- to</p> <p>13 estimate the totality of the ill-gotten gains</p> <p>14 by the conspiring generic defendants, and I</p> <p>15 did so.</p> <p>16 And I said so in my report, and I</p> <p>17 said so in my deposition. And here, the</p> <p>18 judge is saying I'm not going to allow that</p> <p>19 calculation in under that legal theory.</p> <p>20 Q. So you agree -- you appreciate</p> <p>21 that economic analysis that assumes away</p> <p>22 rational economic behavior by competitors is</p> <p>23 subject to exclusion under the Daubert</p> <p>24 standard, right?</p> <p>25 MR. RISSMAN: Objection. Calls</p>	<p style="text-align: right;">Page 23</p> <p>1 with that legal theory go away.</p> <p>2 And that's -- that's the only</p> <p>3 takeaway that I -- that I have from that. My</p> <p>4 other opinion was accepted, and I even got to</p> <p>5 testify in front of the jury on that matter.</p> <p>6 BY MR. COLEMAN:</p> <p>7 Q. I'm just reading what the Court</p> <p>8 held, and the Court held that your analysis,</p> <p>9 calculation two, is excluded because it</p> <p>10 assumed away rational economic behavior by</p> <p>11 competitors, right?</p> <p>12 A. I think the plaintiff's theory of</p> <p>13 harm -- their alternative legal theory in</p> <p>14 which Apotex was entitled to 100 percent of</p> <p>15 the ill-gotten gains of the conspiring</p> <p>16 generic defendants was rejected, and</p> <p>17 accordingly, any damages that were associated</p> <p>18 with that alternative legal theory were also</p> <p>19 rejected.</p> <p>20 Q. Do you dispute that an expert</p> <p>21 opinion in an antitrust case in order to be</p> <p>22 admissible needs to separate lawful from</p> <p>23 unlawful conduct?</p> <p>24 MR. RISSMAN: Objection. Calls</p> <p>25 for a legal conclusion. Form.</p>
<p style="text-align: right;">Page 22</p> <p>1 for a legal conclusion.</p> <p>2 (Reporter clarification.)</p> <p>3 THE WITNESS: Yeah. Let me just</p> <p>4 hear it back because there was</p> <p>5 something that I -- that I disagreed</p> <p>6 with.</p> <p>7 But let me -- is it okay if I</p> <p>8 just hear back the question? Court</p> <p>9 reporter, can you read it back to me?</p> <p>10 (The previous question was read</p> <p>11 back by the court reporter as</p> <p>12 follows:</p> <p>13 "QUESTION: So you agree -- you</p> <p>14 appreciate that economic analysis</p> <p>15 that assumes away rational economic</p> <p>16 behavior by competitors is subject</p> <p>17 to exclusion under the Daubert</p> <p>18 standard, right?")</p> <p>19 A. I don't know if that is the</p> <p>20 takeaway from this episode. So when you say</p> <p>21 I appreciate -- I mean, the wisdom or the</p> <p>22 knowledge that I took away from this case --</p> <p>23 from this episode was that if plaintiff's</p> <p>24 counsel offers a legal theory, that the Court</p> <p>25 rejects, then the damages that are associated</p>	<p style="text-align: right;">Page 24</p> <p>1 A. I don't think I have an opinion on</p> <p>2 the law there. But I can tell you as an</p> <p>3 economist that I wanted to isolate the effect</p> <p>4 of the anticompetitive conduct when</p> <p>5 estimating damages, and I want to control for</p> <p>6 all the other factors that could be affecting</p> <p>7 prices or wages or whatever I'm trying to</p> <p>8 model.</p> <p>9 BY MR. COLEMAN:</p> <p>10 Q. And so you recognize that a</p> <p>11 model -- an economic model or economic</p> <p>12 analysis that does not adequately isolate</p> <p>13 unlawful conduct and distinguish it from</p> <p>14 lawful conduct is problematic. It's not good</p> <p>15 economics, and it's not reliable?</p> <p>16 MR. RISSMAN: Object to form.</p> <p>17 Hypothetical.</p> <p>18 A. I mean, the way that I would put</p> <p>19 it in economic parlance is that an economic</p> <p>20 model, for example, a regression model, it</p> <p>21 failed to control for some key omitted</p> <p>22 variable that -- that better explained the</p> <p>23 conduct and was well grounded in economic</p> <p>24 theory and the facts of the case, that that</p> <p>25 model could not be used to isolate the effect</p>

<p style="text-align: right;">Page 25</p> <p>1 of the challenged conduct on prices. 2 BY MR. COLEMAN: 3 Q. If a business has sound legitimate 4 basis for a decision that is grounded and 5 legitimate economic purposes, the economic 6 model should not treat that as unlawful 7 conduct, right? 8 MR. RISSMAN: Object to form. 9 Incomplete hypothetical. 10 A. I don't know if I -- if I caught 11 that one. Maybe -- maybe you could give it 12 back to me. 13 BY MR. COLEMAN: 14 Q. If a business has a valid 15 legitimate basis for its business decision 16 that's being evaluated by an economic model, 17 the model should not treat that decision as 18 unlawful conduct, right? 19 MR. RISSMAN: Same objection. 20 A. I would say it depends on what 21 kind of case that we are dealing with. There 22 is some conduct, as you are aware, that is 23 per se legal under the antitrust laws, and so 24 it would not be a valid exercise on behalf of 25 the plaintiff's or the defendants' expert to</p>	<p style="text-align: right;">Page 27</p> <p>1 conduct might be motivated for procompetitive 2 reasons needs to be able to account for those 3 efficiency justifications. 4 And a Section 1 case, a per se 5 violation, I don't think it is the burden of 6 the expert to try to justify or explain away 7 the conduct with efficiency bases. 8 BY MR. COLEMAN: 9 Q. So an antitrust plaintiff does not 10 need to exclude an explanation for conduct 11 that's grounded in legitimate business 12 reasons? 13 A. I think the question presumes that 14 we are starting off with conduct that could 15 be motivated for procompetitive reasons, and 16 I'm questioning the premise of your question. 17 There are many cases, including 18 this one, in which we're dealing with a 19 price-fixing conspiracy in which case it is 20 not the burden of the expert to go looking 21 for deficiency justifications. It would only 22 be in a Section 2 case, in a single-firm 23 monopoly case or single-firm monopsony case 24 where we would have to distinguish 25 anticompetitive motivations from</p>
<p style="text-align: right;">Page 26</p> <p>1 go looking for valid -- I'm trying to 2 paraphrase what you said -- valid efficiency, 3 justified motivation for engaging the 4 conduct. 5 BY MR. COLEMAN: 6 Q. Well, we can use the language of 7 the Apotex court, and you understand that the 8 Apotex court referred to rational economic 9 behavior by competitors. 10 Do you recall that from what we 11 read? 12 A. Yes. 13 Q. And you understand that concept, 14 right? 15 A. Yes. 16 Q. And an economic model that treats 17 rational economic behavior in the 18 self-interest of a particular firm as 19 unlawful conduct is problematic, right? 20 MR. RISSMAN: Object to form and 21 calls for incomplete hypothetical. 22 A. Again, I don't think that comes 23 from the Apotex decision, but I can say, 24 divorced from the Apotex decision, that an 25 economic model in a Section 2 case where</p>	<p style="text-align: right;">Page 28</p> <p>1 procompetitive motivations. 2 Q. But you would recognize that it's 3 not appropriate to assume collusion from 4 behavior that is consistent with rational 5 economic self-interest, right? 6 MR. RISSMAN: Object to form. 7 A. I don't know if I have an opinion 8 about assuming collusion. I have to assume 9 in certain parts of what I do that the 10 challenged conduct occurred. But in a 11 price-fixing case such as this one, as you -- 12 as you have observed in my report, I don't 13 assume, but instead I make an assessment of 14 whether the conduct is consistent with the 15 conspiracy based on qualitative and 16 quantitative factors. 17 BY MR. COLEMAN: 18 Q. Did you make an effort in your 19 analysis to rule out lawful explanations for 20 the conduct that you assess in this case? 21 A. I think so. I think that I have a 22 section at the end titled "Plus Factors," 23 which we wouldn't get to unless the Court 24 were to determine that we had to go there. 25 And so -- so the answer to your question is,</p>

<p style="text-align: right;">Page 29</p> <p>1 yes, I do think that I went and tried to 2 inform the plus factors based on the evidence 3 that I reviewed in this record. 4 Q. Yeah. We'll get into this in some 5 more detail. 6 How many times have you had an 7 opinion or analysis deemed inadmissible by a 8 court under the Daubert standard? 9 A. I have had two exclusions -- two 10 full exclusions under the Daubert standard in 11 my career. 12 Q. And what cases were those? 13 A. Jimmy John's is one, and the other 14 was -- it was the Society of Reproductive -- 15 ASRM, I think, is -- was the defendant, and I 16 am -- I forget what the ASRM stood for, but 17 it was Reproductive Society. It involved 18 donor eggs. 19 Q. In how many -- Apotex was a case 20 in which the court ruled a particular 21 calculation or opinion to be inadmissible 22 under Daubert, right? 23 A. Right. Yeah, in that case, I 24 think, I filed, you know, the standard for 25 assessing reverse payments, went up to the</p>	<p style="text-align: right;">Page 31</p> <p>1 Q. Any others come to mind? 2 A. Oh, Yes. MacBook -- In Re: 3 MacBook Keyboard case, which is a consumer 4 protection case where the class was certified 5 around my impact model. The judge did not 6 allow an alternative model to come through. 7 That was called a hedonic 8 progression model. And so the only -- the 9 only model that I will be able to show the 10 jury in that case is the conjoint model. 11 Q. Did you disagree with any of those 12 decisions? 13 A. Oh, yes. 14 You want to tick through one by 15 one? 16 Q. Do you disagree with them all? 17 A. Oh, I don't know if I -- no, I 18 don't disagree with them all. That's why it 19 would be better, I think, if we -- we tick 20 through them, if you have the time, if you 21 want to know my opinion. You know, very few 22 people ever asked, but I am happy to tell you 23 which ones I agree with and which ones I 24 don't. 25 Q. Well, let's just ask this: Do you</p>
<p style="text-align: right;">Page 30</p> <p>1 Supreme Court in the middle of may case and 2 had to go back and refile reports. I think 3 that I filed something on the order of five 4 reports, maybe a thousand pages of testimony, 5 and one calculation got excluded in that 6 case. That is right. 7 Q. So I'm also interested in that, in 8 an instance in which a court excluded part of 9 your opinion or a particular calculation or a 10 model. 11 How many times has that happened? 12 A. Right. That's happened on a few 13 occasions. Let me see if I can -- you got -- 14 you got the major one. I can think of -- 15 when I say "major," I mean, the -- I didn't 16 consider to be a major exclusion, but -- but 17 you got the -- the important one in my 18 portfolio. 19 I think that -- I have to think 20 back. There was -- okay. Here's one. In 21 the capacitors case, the judge ruled that I 22 could assess qualitative evidence using 23 economic criteria, but that I could not 24 assess it using the DOJ and FTC collaboration 25 guidelines.</p>	<p style="text-align: right;">Page 32</p> <p>1 acknowledge that you've made errors in your 2 analysis in any of those cases? 3 A. Oh, no. No. Never made an error. 4 Q. Throughout your report, you refer 5 to "Challenged Conduct." Capital C on 6 "challenged" and capital C on "conduct." 7 What exactly was the challenged 8 conduct in this case? 9 A. Yeah. So I summarized it in 10 Paragraph 2, and I don't think I can do it 11 better here in realtime, but I -- in broad 12 strokes, the challenged conduct is an alleged 13 price-fixing conspiracy that involved the 14 exchange of competitively sensitive 15 information through Agri Stats that served as 16 an information exchange facilitating device 17 for collusion. 18 And so that's -- that's just my 19 on-the-fly summary of what Paragraph 2 says. 20 Q. Okay. So there was -- there was a 21 conspiracy, and a conspiracy involves an 22 agreement among competitors, right? 23 A. I think that could be how the law 24 interprets it. I think that economists don't 25 necessarily use the word "agreement" to</p>

<p style="text-align: right;">Page 33</p> <p>1 explain conspiracies, but that is my 2 understanding, that the law considers an 3 agreement to be at the heart of a conspiracy. 4 Q. Was there an agreement here? 5 A. Well -- 6 MR. RISSMAN: Object to form. 7 A. Yeah, I typically -- 8 MR. RISSMAN: Calls for a legal 9 conclusion. 10 (Reporter clarification.) 11 MR. RISSMAN: Calls for a legal 12 conclusion. 13 A. Yeah. In my -- in my price-fixing 14 cases, I'm told by counsel that I'm not to 15 opine on the existence of an agreement. So I 16 don't. What I do instead is I assess 17 qualitative and quantitative evidence that is 18 consistent with the existence of, but I'm 19 not -- I'm not supposed to opine on whether 20 or not I believe the agreement exists. 21 BY MR. COLEMAN: 22 Q. Coming back to what you understand 23 challenged conduct to be, which is a term 24 that you used throughout your report. You 25 think it includes a conspiracy among the</p>	<p style="text-align: right;">Page 35</p> <p>1 A. Well, when you say "important," 2 I'm answering this, of course, from an 3 economic perspective, not from a legal 4 perspective, although I do understand the law 5 cares about that, too. 6 But from an economic perspective, 7 I think that the economist, when assessing 8 the evidence, both qualitative and 9 quantitative, should be on the lookout for 10 the possibility that the information they're 11 seeing could also be consistent with tacit 12 collusion and to rule that out, and I believe 13 I've done that here. 14 Q. You mentioned that the challenged 15 conduct -- coordination among the 16 defendants -- explicit coordination, right? 17 A. Oh, I'm sorry. I am sorry. 18 What's the question? I am sorry. Give it to 19 me again. 20 Q. Well, i just want to -- we need to 21 get through what challenged conduct means. 22 A. Right. 23 Q. And I think as a first step, I 24 think we have established that it includes, 25 in your mind, a conspiracy, and there's</p>
<p style="text-align: right;">Page 34</p> <p>1 defendants, right? 2 A. Yes. 3 Q. And how do you define 4 "conspiracy"? 5 A. Well, I can give you an economic 6 definition. I think that I would send you to 7 the complaint to see how the plaintiffs have 8 defined a conspiracy. But an economic 9 definition of conspiracy is the notion that 10 the decision making with regard to prices and 11 output were done on a coordinated basis 12 rather than on -- on a unilateral basis and 13 done so explicitly. 14 Q. What do you mean by "explicitly"? 15 A. Well, what we are trying to do in 16 many of these cases is rule out what an 17 economist would call tacit collusion. And so 18 it's possible in certain industries, say, 19 that are highly concentrated -- I am just 20 thinking of a hypothetical industry where 21 firms might be able to feel their way to the 22 monopoly prices without -- without explicitly 23 coordinating. 24 Q. Why is it important to rule out 25 tacit coordination?</p>	<p style="text-align: right;">Page 36</p> <p>1 coordination that was done on an explicit 2 basis, right? 3 A. The allegation by plaintiffs is 4 that there was a price-fixing conspiracy that 5 involved the sharing of competitively 6 sensitive information through Agri Stats, 7 and, you know, if you go into the complaint, 8 they'll talk about how that agreement touched 9 many aspects of the conduct of the firms at 10 issue and how they were able to achieve a 11 reduction in output in a coordinated way. 12 But I think that the centerpiece, 13 at least as I understand it and the way that 14 I've written up my report, is the information 15 exchange -- antitrust competitive information 16 exchange. 17 Q. Okay. So there was an agreement 18 to exchange information through Agri Stats, 19 right? 20 A. Well, as alleged in the complaint. 21 You know, I'm loathed to tell you that there 22 was an agreement. Whenever you ask me today 23 about whether there was an agreement, I'm 24 going to tell you that it is alleged. 25 Q. Well, let's come back -- you used</p>

<p style="text-align: right;">Page 37</p> <p>1 "challenged conduct" maybe dozens of times in 2 your report, and I want a definition of what 3 you meant by it. 4 So is your -- your answer is just 5 whatever happened to be in the complaint, or 6 does challenged conduct actually mean 7 something specific to you? 8 A. It means -- it means something -- 9 well, I don't know if those are -- it could 10 be both, right. But I give you my best 11 understanding of the challenged conduct in 12 Paragraph 2. And so I can't do any better 13 than that here, and I've tried to paraphrase 14 what's in Paragraph 2. 15 And that's my -- that's my 16 understanding of the challenged conduct. 17 It's a price -- an alleged price-fixing 18 conspiracy. 19 Q. Well, let's step back for a 20 minute. 21 So an agreement, a conspiracy, 22 whatever, an exchange of information, is that 23 a per se violation in and of itself? 24 MR. RISSMAN: Objection. That 25 calls for a legal conclusion.</p>	<p style="text-align: right;">Page 39</p> <p>1 quantitative methods, yes. 2 Q. Does challenged conduct include 3 increasing -- defendants increasing exports 4 of pork products? 5 A. Well, if you go into the 6 complaint, you will find allegations that the 7 agreement implicated the defendants' decision 8 making with respect to exports, and there 9 were, in fact, in the record episodes of 10 coordination on the decision of how much to 11 export. 12 But I don't consider exporting to 13 be a restraint that is being challenged in 14 the case. In other words, my mandate was to 15 remove the challenged conduct, which I 16 interrupted to mean the centerpiece was this 17 price-fixing conspiracy held together by 18 information exchange. 19 In other words, no one -- no one 20 said, Dr. Singer, I want you to assume that 21 exporting is zero in the but-for world. No 22 one asked me to treat exporting as if it were 23 a restraint. 24 Now, exporting would likely fall 25 in the but-for world as you remove the</p>
<p style="text-align: right;">Page 38</p> <p>1 A. Yeah. I don't think that you want 2 to come to me for that as to how this is 3 going to be adjudicated. I mean, I feel like 4 that's ultimately going to be the Court's 5 decision as to whether or not to apply the 6 per se -- or rule of reason standard. 7 BY MR. COLEMAN: 8 Q. Is -- in your mind, is everything 9 you define as challenged conduct unlawful? 10 MR. RISSMAN: Object to form. 11 And calls for a legal conclusion. 12 A. Right. I don't have any opinions 13 with respect to what -- what is unlawful. I 14 have opinions as to whether or not the 15 conduct was anticompetitive. I can answer 16 that question, but I can't -- I can't go into 17 areas of law. 18 BY MR. COLEMAN: 19 Q. And -- well, answer that question, 20 then. 21 Is all of the challenged conduct 22 anticompetitive in economic terms? 23 A. Oh, I concluded that the 24 challenged conduct was anticompetitive using 25 both my qualitative assessment and my</p>	<p style="text-align: right;">Page 40</p> <p>1 challenged conduct. But I don't consider 2 exporting to be a restraint that I should 3 remove when modeling the but-for world. 4 Q. Yeah. So it -- just so the record 5 is clear, the but-for world is the world in 6 which there was no conspiracy or challenged 7 conduct, right? 8 A. Correct. 9 Q. So in the but-for world, we assume 10 away any unlawful coordination or any 11 challenged conduct, right? 12 A. That's fair. 13 Q. And so at least as to exports, do 14 you have an opinion in that but-for world 15 whether exports would have stayed flat or 16 would have increased? 17 A. So what I've -- what I've 18 quantified is the extent to which domestic 19 production would be -- would have been 20 greater in the but-for world absent the 21 challenged conduct. 22 What I have not done is said where 23 would that come from. Would it necessarily 24 come from exports, or would it be new supply. 25 I haven't -- I haven't -- I haven't said</p>

<p style="text-align: right;">Page 41</p> <p>1 that. But I think that my kind of high-level 2 opinion is that exports would be lower in the 3 but-for world but would not be zero. 4 And so, you know, I'm going back 5 and saying something earlier. No one asked 6 me to eliminate exporting in the but-for 7 world and then solve for the price effects. 8 That was not -- that was not my mandate. My 9 mandate was to remove the challenged conduct. 10 Q. We'll be able to look at some 11 numbers in a bit. 12 But I mean, you understand that 13 exports have increased year over year for 14 pork products for -- you know, going back for 15 decades now, right? 16 MR. RISSMAN: Object to form. 17 A. That's probably fair, yes. I 18 mean, just as the world economy grows, that 19 would make sense. 20 BY MR. COLEMAN: 21 Q. So do you have an opinion as to 22 whether the exports in the but-for world 23 would have increased? 24 A. Well, relative to the actual 25 world, my opinion is that exports would have</p>	<p style="text-align: right;">Page 43</p> <p>1 and liquidation. There are many different 2 mechanisms by which allegedly conspiring 3 firms could reduce domestic output. And I'm 4 also aware in the complaint, and in my 5 report, I've summarized some record evidence 6 that speaks to coordinated conduct with 7 respect to exporting. 8 But I think it's a mistake to -- 9 to focus on exporting and to treat exporting 10 as a restraint that should be eliminated in 11 the but-for world. I'm just trying to make 12 this -- you said I wasn't being clear. I'm 13 trying to be as clear as possible. 14 The restraint is an alleged 15 conspiracy to reduce domestic output and to 16 raise prices. And the way that that was 17 achieved -- the way that that was achieved 18 was through a variety of mechanisms, right, 19 that I detail in my report. And I guess I 20 will leave it as that. 21 BY MR. COLEMAN: 22 Q. So what was the underlying 23 agreement among defendants? It was to reduce 24 pork -- domestic pork supply? Is that -- is 25 that your testimony?</p>
<p style="text-align: right;">Page 42</p> <p>1 been smaller in the but-for world. But if 2 you drew them on a graph, they would be 3 increasing over time, no doubt, even in the 4 but-for world. 5 Q. So I want come back to your answer 6 that I'm not -- it's not clear to me, that -- 7 you said there was -- we're going back to the 8 challenged conduct and what it was. And I'm 9 trying to explain -- or understand exactly 10 what's included in challenged conduct. And I 11 think we have established that there -- you 12 think there was a conspiracy, or you assume 13 there was a conspiracy, and I want to 14 understand what the conspiracy agreed to do, 15 conspiracy to do what. 16 Was there a conspiracy to increase 17 exports of pork products? 18 MR. RISSMAN: Object to form. 19 And calls for a legal conclusion. 20 A. I think the alleged conspiracy 21 involved reducing domestic output and 22 increasing domestic prices. Now, how that 23 manifested itself could occur in many ways. 24 You know, I go into my report -- 25 talk about harvest reduction and exporting</p>	<p style="text-align: right;">Page 44</p> <p>1 MR. RISSMAN: Objection. Legal 2 conclusion. Form. 3 A. Right. So, again, I can't -- I 4 can't speak to the existence of the 5 agreement, but I can tell you my 6 understanding of the allegations in the 7 complaint was that there was a single 8 agreement among the defendants, with 9 Agri Stats working as the center piece, to 10 reduce domestic pork supply and increase 11 prices. 12 BY MR. COLEMAN: 13 Q. And the -- you talk quite a bit 14 about cartel, and you review cartel 15 literature, and I think you accuse Agri Stats 16 of doing the work of a cartel here, right? 17 A. I -- I think that my opinion is 18 that Agri Stats performed like a textbook 19 cartel, yes -- a cartel ringleader, yes. 20 Q. Okay. Are you -- did you form the 21 opinion that a cartel existed here or not? 22 MR. RISSMAN: Objection. Calls 23 for a legal conclusion. 24 A. I mean, I just told you that I 25 think that Agri Stats was -- was acting like</p>

<p style="text-align: right;">Page 45</p> <p>1 a cartel. But I think that my primary 2 economic opinion is that the qualitative and 3 quantitative evidence is consistent with a 4 conspiracy to inflate prices and reduce 5 domestic output. 6 BY MR. COLEMAN: 7 Q. And so, again, the cartel 8 agreement here, to the extent one existed, 9 was to reduce supply, and the cartel has left 10 it to the defendant firms to figure out how 11 to do that? 12 How does this work in your mind? 13 A. No, I don't -- 14 MR. RISSMAN: Object to form and 15 lacks foundation. 16 A. My review of the record and the 17 qualitative evidence does not -- shows that 18 it was not left to defendants to figure it 19 out; that there was, in fact, coordination 20 with respect to how to figure it out, with 21 respect to reducing exporting, for example -- 22 sorry, increasing exporting so as to reduce 23 domestic supply. 24 So, I guess, I reject -- I reject 25 the question respectfully, but I don't think</p>	<p style="text-align: right;">Page 47</p> <p>1 take you there right now in realtime, but I 2 think that I do, in fact, point to such 3 evidence in the report. 4 Q. Well, we can go through -- we'll 5 go through it in some detail, but sitting 6 here, at this moment, you're not -- you can't 7 point to a single document in which two 8 defendants were in, quote/unquote, cahoots to 9 increase exports? 10 MR. RISSMAN: Objection. 11 Mischaracterizes testimony. 12 A. Sitting here, I don't think I have 13 it memorized, but I have two separate 14 sections on exports, and I've -- you know, 15 I've read them a few times recently, and I 16 seem to recall an episode in which two or 17 more defendants were coordinating in their 18 export decisions. 19 BY MR. COLEMAN: 20 Q. Which defendants? 21 A. Sitting here, I can't say. 22 Q. Have you reviewed any data about 23 how much pork products any of the defendants 24 exported in any particular year? 25 A. I believe I have, yes.</p>
<p style="text-align: right;">Page 46</p> <p>1 it was just left to the defendants to figure 2 it out on their own. 3 Q. Okay. So what exactly was the 4 coordination to reduce exports? 5 MR. RISSMAN: Same objections. 6 A. I think that I've reviewed both 7 allegations in the complaint and record 8 evidence that's in my report under the 9 exporting section in which two or more 10 defendants were coordinating with respect to 11 their export decision making. 12 BY MR. COLEMAN: 13 Q. And what does "coordination" mean 14 in your mind there? 15 A. Coordination is distinct from the 16 unilateral conduct; that is, they're reaching 17 the decision in cahoots or in coordination 18 with arrival -- horizontal arrival. 19 Q. Can you point to a single document 20 that indicates that two defendants that 21 were -- were in, quote/unquote, cahoots when 22 making their -- a decision to export pork 23 products? 24 A. Well, I believe I have such 25 evidence in my report. I don't know if I can</p>	<p style="text-align: right;">Page 48</p> <p>1 Q. And what data? 2 A. Oh, I think -- I think Agri Stats 3 kept data on exports, and I also think I've 4 seen data on exports that were kept by the 5 defendants themselves. 6 Q. Okay. So my client is Hormel. 7 How much did Hormel export in any particular 8 year? 9 MR. RISSMAN: Object to form. 10 A. Oh, sitting here, I can't tell 11 you. 12 BY MR. COLEMAN: 13 Q. Have you reviewed data showing how 14 much pork products Hormel exported? 15 A. It's possible I have, yes, or a 16 staff member has, yes. 17 Q. So are you familiar with the 18 concept of direct evidence of a conspiracy or 19 agreement? 20 MR. RISSMAN: Objection. That 21 calls for a legal conclusion. 22 A. No. No, I'm not. 23 BY MR. COLEMAN: 24 Q. Have you reviewed any documents in 25 which there was correspondence from one</p>

<p style="text-align: right;">Page 49</p> <p>1 defendant to another indicating that they had</p> <p>2 agreed to increase exports?</p> <p>3 MR. RISSMAN: I'm going to</p> <p>4 object on legal conclusion, and I also</p> <p>5 instruct the witness that he should</p> <p>6 only testify as to things he's formed</p> <p>7 an opinion on and not -- merely</p> <p>8 analyzed but had not formed an opinion</p> <p>9 on.</p> <p>10 MR. COLEMAN: And I guess I will</p> <p>11 revise the question.</p> <p>12 BY MR. COLEMAN:</p> <p>13 Q. In response to the -- you think</p> <p>14 that there's evidence in this case indicating</p> <p>15 that two or more defendants were in,</p> <p>16 quote/unquote, cahoots to increase exports.</p> <p>17 And I'm concerned about that.</p> <p>18 It's a serious allegation. If it's true,</p> <p>19 it's a crime. So you're accusing my client</p> <p>20 and other defendants of crimes.</p> <p>21 I want to know exactly what you're</p> <p>22 talking about when you think there's evidence</p> <p>23 in this case showing that two or more</p> <p>24 defendants were in, quote/unquote, cahoots to</p> <p>25 increase exports?</p>	<p style="text-align: right;">Page 51</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. I'm just trying to understand what</p> <p>3 you're talking about.</p> <p>4 A. Sure.</p> <p>5 Q. I looked through the record, and I</p> <p>6 haven't seen it, so help me out here.</p> <p>7 MR. RISSMAN: Objection.</p> <p>8 Argumentative.</p> <p>9 BY MR. COLEMAN:</p> <p>10 Q. Go ahead.</p> <p>11 A. I'm telling you what my memory is</p> <p>12 of the evidence, and I also seem to recall in</p> <p>13 the complaint that there was an allegation</p> <p>14 that the -- that the agreement touched export</p> <p>15 decision making as well.</p> <p>16 I will leave it at that.</p> <p>17 Q. Well, I'm interested in how we</p> <p>18 would go about identifying this document in</p> <p>19 which one defendant is cajoling another one.</p> <p>20 How did that work in your mind?</p> <p>21 A. Okay. Those are two separate</p> <p>22 questions. But how we would go about it,</p> <p>23 which is the first question, is I'd want to</p> <p>24 go back and review the evidence that I put</p> <p>25 forward in my export session.</p>
<p style="text-align: right;">Page 50</p> <p>1 MR. RISSMAN: Object to form.</p> <p>2 BY MR. COLEMAN:</p> <p>3 Q. As of -- as of the moment, you're</p> <p>4 not able to identify to a -- a specific</p> <p>5 document, right?</p> <p>6 MR. RISSMAN: Object to form.</p> <p>7 And long narrative. I'm not really</p> <p>8 sure what the question was.</p> <p>9 But if you understood it, Mr. --</p> <p>10 Dr. Singer, you can answer.</p> <p>11 A. My recollection is that there's</p> <p>12 evidence in my report that describes how two</p> <p>13 defendants, either acting directly or via</p> <p>14 Agri Stats, were coordinating and sharing</p> <p>15 information or cajoling one another with</p> <p>16 respect to decision making over exports.</p> <p>17 BY MR. COLEMAN:</p> <p>18 Q. And so that's how we would</p> <p>19 identify that -- that evidence that you have</p> <p>20 in mind, is that one defendant is,</p> <p>21 quote/unquote, cajoling another defendant to</p> <p>22 increase exports?</p> <p>23 MR. RISSMAN: Objection.</p> <p>24 Mischaracterizes the testimony.</p> <p>25 MR. COLEMAN: I'm not.</p>	<p style="text-align: right;">Page 52</p> <p>1 I have two sections on exports,</p> <p>2 and I seem to recall at least one paragraph</p> <p>3 in which two or more defendants were involved</p> <p>4 in the communication that concerned the</p> <p>5 decision making around exporting.</p> <p>6 Q. Okay. So when we come back to</p> <p>7 challenged conduct -- challenged conduct, it</p> <p>8 includes a conspiracy. There was a</p> <p>9 conspir -- an agreement, conspiracy, whatever</p> <p>10 you want to call it, to participate in</p> <p>11 Agri Stats, right?</p> <p>12 MR. RISSMAN: Object to form.</p> <p>13 And mischaracterizes testimony in the</p> <p>14 report.</p> <p>15 BY MR. COLEMAN:</p> <p>16 Q. Yeah. If I mischaracterize your</p> <p>17 testimony, go ahead and correct me. I'm just</p> <p>18 trying to understand what you mean by</p> <p>19 "challenged conduct."</p> <p>20 A. Sure.</p> <p>21 MR. RISSMAN: Objection. Asked</p> <p>22 and answered.</p> <p>23 A. Sure. The challenged conduct as</p> <p>24 described in Paragraph 2 is an alleged</p> <p>25 agreement among defendants to reduce domestic</p>

<p style="text-align: right;">Page 53</p> <p>1 pork supply, increase prices through the use 2 of an information exchange provided by 3 Agri Stats. 4 BY MR. COLEMAN: 5 Q. Okay. So the conspiracy is not 6 just to -- in your mind, it's not just to 7 exchange information through Agri Stats, but 8 it is also to reduce the domestic supply of 9 pork? 10 A. I think that the conspiracy as 11 alleged here was designed to reduce the 12 domestic supply of pork and to increase 13 domestic prices. 14 Q. Yeah. And was there a conspiracy 15 to increase exports? 16 MR. RISSMAN: Objection. Form. 17 A. Yeah, I'm -- I don't offer an 18 opinion on the existence of a conspiracy or 19 the existence of an agreement. All I can 20 tell you, in my economic opinion, is that my 21 review of the qualitative factors according 22 to the criteria that economists use to 23 ascertain cartel behavior as well as the 24 quantitative evidence, the method I used to 25 assess price and output effects is all</p>	<p style="text-align: right;">Page 55</p> <p>1 increasing exports, in quotes, that phrase, 2 in Paragraph 2 when I complain the challenged 3 conduct. I've now -- I think I've defined it 4 for you about five times, and it's -- you 5 know, Paragraph 2 is the best I can do. 6 But, again, I will say that 7 increasing exports is an aspect or an element 8 that flowed from the challenged conduct. 9 That is the mechanism -- is one of the 10 mechanisms by which the defendants allegedly 11 were able to reduce domestic pork supply. 12 Q. And so again -- are you not able 13 to give me a yes-or-no answer as to whether 14 increased exports fits your definition of 15 challenged conduct? 16 MR. RISSMAN: Object to form. 17 And asked and answered. 18 A. That's correct. I can't -- 19 MR. COLEMAN: I wish it had been 20 answered. 21 BY MR. COLEMAN: 22 Q. Is that a -- that's not subject to 23 a yes-or-no question? 24 A. I guess there's -- 25 MR. RISSMAN: Same objection.</p>
<p style="text-align: right;">Page 54</p> <p>1 pointing in the direction and consistent with 2 the existence of an agreement and the 3 existence of a conspiracy. 4 And that's as far as I can go. 5 BY MR. COLEMAN: 6 Q. Did that include the conspiracy to 7 increase exports? 8 MR. RISSMAN: Object to form. 9 A. I think that in the complaint, 10 there's an allegation that the conspiracy 11 reached decision making with respect to 12 exporting. But I wouldn't consider that 13 aspect to be a standalone agreement. There 14 are many ways in which output -- domestic 15 output can be reduced. I go through the 16 different ways in my report. 17 And I think the best way to 18 explain and to understand the challenged 19 conduct is a single agreement to reduce 20 domestic supply and raise domestic prices. 21 BY MR. COLEMAN: 22 Q. Is increase in exports part of the 23 challenged conduct? 24 MR. RISSMAN: Object to form. 25 A. Well, I don't -- I don't include</p>	<p style="text-align: right;">Page 56</p> <p>1 A. Oh. It is not subject to a 2 yes-or-no answer. 3 BY MR. COLEMAN: 4 Q. How about the reduction in sow 5 herd by some of the defendants? Is that part 6 of your definition of challenged conduct? 7 A. Are you talking about the 8 liquidation, for example, as another method 9 to reduce domestic supply? 10 Q. Yes. 11 A. So I see liquidation, harvest 12 reduction, and exporting as different 13 mechanisms by which the defendants were able 14 to effectuate the alleged conspiracy. But I 15 don't -- I don't see liquidation, for 16 example, or exporting to be a separate and 17 standalone restraint that I need to remove in 18 the but-for world. 19 What I need to remove in the 20 but-for world is the challenged conduct; that 21 is, the agreement -- the single agreement to 22 reduce output and raise prices via sharing of 23 competitively sensitive information through 24 Agri Stats. That's what I have to remove. 25 Q. And so at least in this context,</p>

<p style="text-align: right;">Page 57</p> <p>1 you're familiar with what an agreement is.</p> <p>2 Your model accounts for an agreement among</p> <p>3 defendants that -- to share information</p> <p>4 through Agri Stats?</p> <p>5 A. I think you're speaking of my</p> <p>6 econometric model here.</p> <p>7 Q. I'm -- yeah, I'm just referring to</p> <p>8 the testimony you just offered, that your</p> <p>9 model needs to account for and remove the</p> <p>10 agreement to exchange information through</p> <p>11 Agri Stats.</p> <p>12 A. Well, as you know, I set the -- I</p> <p>13 used a conduct variable, which is a very</p> <p>14 traditional approach to estimating price</p> <p>15 effects from alleged price-fixing</p> <p>16 conspiracies, and I set that conduct variable</p> <p>17 equal to one at a certain point in 2009, as</p> <p>18 you know, because that's when Agri Stats</p> <p>19 began to produce, I believe, the sales</p> <p>20 report.</p> <p>21 So the whole -- the whole</p> <p>22 construct of the model is turning on this</p> <p>23 information exchange by Agri Stats.</p> <p>24 That's -- that's when I set the variable</p> <p>25 equal to one.</p>	<p style="text-align: right;">Page 59</p> <p>1 sensitive information by Agri Stats.</p> <p>2 So participate just kind of</p> <p>3 glosses over the anticompetitive act.</p> <p>4 BY MR. COLEMAN:</p> <p>5 Q. Right. So there was -- all right.</p> <p>6 I just want to understand your articulation</p> <p>7 of what the challenged conduct was.</p> <p>8 So there was an agreement to</p> <p>9 reduce supply; is that right?</p> <p>10 MR. RISSMAN: Objection.</p> <p>11 Mischaracterizes testimony.</p> <p>12 A. That's -- that's an aspect of the</p> <p>13 agreement, but I think that the best way to</p> <p>14 understand the agreement is -- now I've said</p> <p>15 it about ten times.</p> <p>16 But it's the -- the agreement is</p> <p>17 to reduce domestic supply -- the alleged</p> <p>18 agreement is to reduce domestic supply and to</p> <p>19 increase domestic prices through the sharing</p> <p>20 of competitively sensitive information by</p> <p>21 Agri Stats.</p> <p>22 BY MR. COLEMAN:</p> <p>23 Q. And, again, coming back to the sow</p> <p>24 herd reduction, was there an agreement to</p> <p>25 reduce sows?</p>
<p style="text-align: right;">Page 58</p> <p>1 Q. So there was an agreement to</p> <p>2 participate in Agri Stats, right?</p> <p>3 A. I don't -- I don't like --</p> <p>4 MR. RISSMAN: Object to form.</p> <p>5 Mischaracterizes his testimony, again.</p> <p>6 MR. COLEMAN: I'm literary</p> <p>7 quoting from what he just said.</p> <p>8 But go ahead. Go ahead. If you</p> <p>9 want to --</p> <p>10 MR. RISSMAN: He --</p> <p>11 MR. COLEMAN: -- make your</p> <p>12 testimony, that's fine.</p> <p>13 A. No, I wouldn't -- I wouldn't say</p> <p>14 an agreement to participate in Agri Stats.</p> <p>15 That's -- that's not how I would describe the</p> <p>16 challenged conduct. That's not how I've</p> <p>17 defined it, you know, over the five or six</p> <p>18 times you have asked me during this call --</p> <p>19 during this deposition.</p> <p>20 It is the agreement to suppress</p> <p>21 domestic supply and to raise -- or the</p> <p>22 alleged agreement, to suppress domestic</p> <p>23 supply and to domestic prices was achieved</p> <p>24 principally through coordination made</p> <p>25 possible through the sharing of competitively</p>	<p style="text-align: right;">Page 60</p> <p>1 MR. RISSMAN: Objection.</p> <p>2 A. I think the complaint alleges that</p> <p>3 the agreement touched the decision making</p> <p>4 with respect to liquidation. But -- and I</p> <p>5 said -- I will say the same thing for</p> <p>6 liquidation that I said for exporting.</p> <p>7 I'm not removing liquidation in</p> <p>8 the but-for world. Right. I do not set</p> <p>9 liquidation to zero in the but-for world and</p> <p>10 then solve for the price fix. I do not set</p> <p>11 exporting to zero in the but-for world. It</p> <p>12 is not a restraint along the lines of the</p> <p>13 restraint that I have removed, which is the</p> <p>14 sharing of competitively sensitive</p> <p>15 information among the defendants via</p> <p>16 Agri Stats.</p> <p>17 So just to put a bow on this,</p> <p>18 there will be some liquidation in the but-for</p> <p>19 world. There will be some exporting in the</p> <p>20 but-for world. It's not a restraint to be</p> <p>21 eliminated in the but-for world when I said</p> <p>22 about modeling the but-for world and the</p> <p>23 challenged conduct.</p> <p>24 BY MR. COLEMAN:</p> <p>25 Q. So how much would sows -- the sow</p>

<p style="text-align: right;">Page 61</p> <p>1 herd have been reduced in the but-for world?</p> <p>2 MR. RISSMAN: I'm going to</p> <p>3 instruct the witness that if he hasn't</p> <p>4 formed an opinion on that, he</p> <p>5 shouldn't answer.</p> <p>6 BY MR. COLEMAN:</p> <p>7 Q. Let's set that as a precursor.</p> <p>8 Did you form an opinion on how</p> <p>9 much the sow herd would have been reduced in</p> <p>10 the but-for world?</p> <p>11 A. I have not. I've estimated, like</p> <p>12 I said, how much more domestic supply would</p> <p>13 have occurred in the but-for world absent the</p> <p>14 alleged conspiracy, and I have not performed</p> <p>15 a decomposition as to how that output</p> <p>16 increase would be achieved.</p> <p>17 But I think it's reasonable to</p> <p>18 infer that it would be achieved through some</p> <p>19 combination of the mechanisms that were</p> <p>20 employed by the defendants to reduce domestic</p> <p>21 output.</p> <p>22 Q. So just coming back to the basic</p> <p>23 question as to whether or not you formed an</p> <p>24 opinion about how much the sow herd would</p> <p>25 have been reduced, if at all, in the but-for</p>	<p style="text-align: right;">Page 63</p> <p>1 that some liquidation, of course, would occur</p> <p>2 in the but-for world. Some exporting would</p> <p>3 occur in the but-for world.</p> <p>4 What I haven't done is, once my</p> <p>5 model generates the output effect -- because</p> <p>6 I understand that output effect is a</p> <p>7 requisite element of the proof of</p> <p>8 anticompetitive injury here.</p> <p>9 What my model doesn't do is then</p> <p>10 take a step forward and say, okay, of that</p> <p>11 reduced output, I can tell you that X percent</p> <p>12 is coming from increased exports, Y percent</p> <p>13 is coming from Harvard -- harvest reduction,</p> <p>14 and Z percent is coming from liquidation --</p> <p>15 came from liquidation -- increased</p> <p>16 liquidation.</p> <p>17 I don't do that. I don't do such</p> <p>18 a decomposition. I don't think such a</p> <p>19 decomposition is necessary. And I feel like</p> <p>20 that is what you are getting at with this</p> <p>21 question. And I just want the record to be</p> <p>22 clear as to what I have done and have not</p> <p>23 done.</p> <p>24 Q. Well, you understand that economic</p> <p>25 analysis and this kind of modeling will often</p>
<p style="text-align: right;">Page 62</p> <p>1 world.</p> <p>2 The answer is you did not form an</p> <p>3 opinion on that subject; is that right?</p> <p>4 A. Well, I want the record to be very</p> <p>5 clear. I estimated with -- with great</p> <p>6 precision, in my opinion, the extent of the</p> <p>7 output reduction that could be attributed to</p> <p>8 the challenged conduct. I have not performed</p> <p>9 a decomposition of that output reduction</p> <p>10 according to the three primary mechanisms the</p> <p>11 defendants used to reduce domestic supply.</p> <p>12 I have not done that. I don't</p> <p>13 think such a decomposition is necessary, and</p> <p>14 I will leave it at that.</p> <p>15 Q. Well -- and I'm just a lawyer.</p> <p>16 I'm not sure I understand what decomposition</p> <p>17 is. I guess what I want to know is did your</p> <p>18 model or any opinion that you formed in this</p> <p>19 case allow you to assess whether sow herd</p> <p>20 reductions would have occurred in the but-for</p> <p>21 world?</p> <p>22 A. Oh. The model doesn't tell us</p> <p>23 that, but I think just economic insight</p> <p>24 analysis and review of the qualitative</p> <p>25 record, all the institutional details, is</p>	<p style="text-align: right;">Page 64</p> <p>1 include a comparison of the -- you know, the</p> <p>2 assumed world with the conduct that you're</p> <p>3 focused on, take that and compare it to what</p> <p>4 would have happened in the but-for world.</p> <p>5 Right?</p> <p>6 I mean, that's -- that's not a --</p> <p>7 you're familiar with that sort of economic</p> <p>8 reasoning, right?</p> <p>9 A. Well, I think you're describing</p> <p>10 benchmarking, which is precisely what I've</p> <p>11 done by comparing prices in a dirty or</p> <p>12 contaminated environment with a clean</p> <p>13 environment which predates the conduct</p> <p>14 period. That's precisely what I've done</p> <p>15 here.</p> <p>16 Q. Right. But your model is not</p> <p>17 delivering an answer as to what would have</p> <p>18 happened to exports in the but-for world or</p> <p>19 the sow herd in the but-for world, right?</p> <p>20 MR. RISSMAN: Objection. Asked</p> <p>21 and answered.</p> <p>22 A. I think my model is giving a --</p> <p>23 can be used, as I've used it, to give an</p> <p>24 estimation of the output effect going to</p> <p>25 challenged conduct across the various</p>

<p style="text-align: right;">Page 65</p> <p>1 mechanisms. But it does not provide a</p> <p>2 decomposition of that output effect into the</p> <p>3 three categories of -- or mechanisms that</p> <p>4 were used by defendants to reduce domestic</p> <p>5 supply.</p> <p>6 BY MR. COLEMAN:</p> <p>7 Q. Did you just reference three</p> <p>8 mechanisms to reduce domestic supply of pork?</p> <p>9 A. Yes.</p> <p>10 Q. And so what was the third?</p> <p>11 A. Well, these were the ones that</p> <p>12 I -- that I include in my report, but it's --</p> <p>13 I will show you the section. It's</p> <p>14 8(C)(1)(a), and those are -- those are</p> <p>15 liquidation, harvest reduction and exports.</p> <p>16 Q. Right. And exactly what was the</p> <p>17 harvest reduction? Explain how that --</p> <p>18 exactly what lever was used there?</p> <p>19 MR. RISSMAN: Object to form.</p> <p>20 A. Just a second.</p> <p>21 So Paragraph 213 explains the</p> <p>22 definition of harvest reduction, occurs when</p> <p>23 defendants decrease the number of plant hours</p> <p>24 or suspend operation so that fewer hogs would</p> <p>25 be slaughtered, which temporarily decreases</p>	<p style="text-align: right;">Page 67</p> <p>1 those three levers, not a -- not a separate</p> <p>2 mechanism or lever to reduce output, right?</p> <p>3 A. I think there is some overlap in</p> <p>4 those, but I do think that you can -- you can</p> <p>5 think about the output effects as a way of</p> <p>6 moving up the demand curve from higher</p> <p>7 prices. I will leave it at that.</p> <p>8 Q. Well, what -- what exactly did the</p> <p>9 defendants do other than the three things we</p> <p>10 have identified?</p> <p>11 A. Oh, they conspired to raise</p> <p>12 prices. They alleged -- they conspired to</p> <p>13 raise prices. Right. And so if you -- if</p> <p>14 you -- if an information intermediary like</p> <p>15 Agri Stats is providing you profit-making</p> <p>16 opportunities to raise prices that you</p> <p>17 wouldn't otherwise know, and you raise prices</p> <p>18 because of that, the effect is going to be a</p> <p>19 reduction in consumption in the US market as</p> <p>20 an output effect.</p> <p>21 It really has nothing to do with,</p> <p>22 you know, the three levers that we talked</p> <p>23 about before.</p> <p>24 Q. Yeah. So did -- did you review</p> <p>25 evidence in which two or more defendants ever</p>
<p style="text-align: right;">Page 66</p> <p>1 the domestic availability of pork products.</p> <p>2 BY MR. COLEMAN:</p> <p>3 Q. Yeah, we'll circle back to that.</p> <p>4 A. Okay.</p> <p>5 Q. And anything else that -- any</p> <p>6 other conduct that you think is -- meets that</p> <p>7 definition of harvest reduction in your mind?</p> <p>8 A. Well, I have a whole section that</p> <p>9 describes the record evidence on harvest</p> <p>10 reduction. But I think the definition I just</p> <p>11 gave you is the top-line definition of what</p> <p>12 harvest reduction is.</p> <p>13 Q. So we've got three levers of the</p> <p>14 assumed conspiracy: increase in exports,</p> <p>15 reduce in sows, harvest reductions. Anything</p> <p>16 else?</p> <p>17 A. No. I would say that output will</p> <p>18 also fall naturally -- just consumption in</p> <p>19 the domestic market will fall naturally with</p> <p>20 price increases. And so to the extent the</p> <p>21 conspiracy helped elevate prices artificially</p> <p>22 above competitive levels, that's a movement</p> <p>23 up the demand curve and a reduction in the</p> <p>24 amount of output in the US market.</p> <p>25 Q. That sounds like the effects of</p>	<p style="text-align: right;">Page 68</p> <p>1 agreed on price?</p> <p>2 A. No, I don't know what --</p> <p>3 MR. RISSMAN: Object to form.</p> <p>4 A. I don't know what you mean by</p> <p>5 "agreed," but to an economist if -- if an</p> <p>6 information broker is exchanging</p> <p>7 competitively sensitive information across to</p> <p>8 defendants, and they utilize and rely on that</p> <p>9 information to effectuate a price increase</p> <p>10 that otherwise would not have been possible,</p> <p>11 and that is an anticompetitive price effect.</p> <p>12 Now, if you want to call it -- I</p> <p>13 think -- what was the word that you were</p> <p>14 trying to use -- agreement -- you know, I'm</p> <p>15 not offering opinions on agreements. I'm</p> <p>16 offering economic opinions. I will leave it</p> <p>17 at that.</p> <p>18 BY MR. COLEMAN:</p> <p>19 Q. So when was the conspiracy formed?</p> <p>20 A. Well, the complaint --</p> <p>21 MR. RISSMAN: Object to form and</p> <p>22 foundation.</p> <p>23 A. The complaint -- can you give me</p> <p>24 the question again?</p> <p>25</p>

<p style="text-align: right;">Page 69</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. When was the conspiracy formed?</p> <p>3 MR. RISSMAN: Same objection.</p> <p>4 A. The complaint asserts that the</p> <p>5 conduct period began in 2009 with the release</p> <p>6 of certain Agri Stats reports, and so that's</p> <p>7 why I define the conduct variable in my model</p> <p>8 to begin in 2009.</p> <p>9 BY MR. COLEMAN:</p> <p>10 Q. And is that why you treated 2008</p> <p>11 as a preconspiracy benchmark year?</p> <p>12 A. Yes.</p> <p>13 Q. And so you understood that 2008</p> <p>14 predated the conspiracy?</p> <p>15 MR. RISSMAN: Object to form.</p> <p>16 And calls for a legal conclusion.</p> <p>17 BY MR. COLEMAN:</p> <p>18 Q. Well, at least that's the</p> <p>19 assumption.</p> <p>20 MR. COLEMAN: I am sorry, Josh.</p> <p>21 Yeah. Go ahead.</p> <p>22 I apologize to the court</p> <p>23 reporter, too.</p> <p>24 Did you catch his objection?</p> <p>25 THE STENOGRAPHER: Yes.</p>	<p style="text-align: right;">Page 71</p> <p>1 Do you assume that there was any</p> <p>2 agreement to refrain from slaughtering all</p> <p>3 pigs available for purchase in any given</p> <p>4 year?</p> <p>5 MR. RISSMAN: I'm going to</p> <p>6 object as mischaracterizing the</p> <p>7 testimony, and object to form.</p> <p>8 A. I don't think that I make such an</p> <p>9 assumption, and, again, when use the word</p> <p>10 "agreement," the only -- the only agreement</p> <p>11 that I'm assuming away is the single</p> <p>12 agreement to reduce domestic supply and to --</p> <p>13 and to increase domestic prices -- the</p> <p>14 alleged agreement.</p> <p>15 I just want it to be -- the record</p> <p>16 to be clear. I know I've said this now five</p> <p>17 times, but I don't think there is a -- there</p> <p>18 is alleged to be a separate agreement</p> <p>19 pertaining to harvesting or distinct or</p> <p>20 separate agreement with respect to exporting.</p> <p>21 I think there's one single</p> <p>22 agreement, as I understand the complaint.</p> <p>23 BY MR. COLEMAN:</p> <p>24 Q. Are you aware of any instance in</p> <p>25 which the defendants did not slaughter all</p>
<p style="text-align: right;">Page 70</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. And so your model -- you can</p> <p>3 strike the previous question.</p> <p>4 Your model assumes that 2008 was a</p> <p>5 preconspiracy year, right?</p> <p>6 MR. RISSMAN: Object to form.</p> <p>7 A. The model does treat 2008 as a</p> <p>8 preconspiracy year. That is correct. And I</p> <p>9 recognize that I've -- there is some evidence</p> <p>10 in the record to suggest that Agri Stats had</p> <p>11 already begun, at least through its marketing</p> <p>12 campaign, to -- to move -- place the wheels</p> <p>13 in motion to form this alleged conspiracy or</p> <p>14 this cartel.</p> <p>15 And to the extent that any prices</p> <p>16 in 2008, which I've considered to be an edge</p> <p>17 year, reflect the effects of that preliminary</p> <p>18 coordination, then my benchmark -- my clean</p> <p>19 benchmark will naturally produce a</p> <p>20 conservative estimate of the price effect</p> <p>21 owing to the conspiracy.</p> <p>22 BY MR. COLEMAN:</p> <p>23 Q. So you've mentioned that harvest</p> <p>24 agreement was one of the mechanisms used to</p> <p>25 reduce the domestic supply of pork.</p>	<p style="text-align: right;">Page 72</p> <p>1 pigs that were raised domestically in a given</p> <p>2 year?</p> <p>3 A. Am I aware of such an episode? I</p> <p>4 don't know if I understand the question. All</p> <p>5 defendants or any defendant did not slaughter</p> <p>6 all pigs?</p> <p>7 Q. Yeah. We'll just break it down.</p> <p>8 I mean, I think you realize that market hogs</p> <p>9 are raised on hog farms. We sometimes call</p> <p>10 them -- refer to those hog farms as hog</p> <p>11 producers, right?</p> <p>12 A. Okay. Right.</p> <p>13 Q. And so biological lifestyle --</p> <p>14 lifecycle of hogs involves a sow farrowing a</p> <p>15 litter, right?</p> <p>16 A. Okay. That's fair.</p> <p>17 Q. And the litter is weaned, and pigs</p> <p>18 are fed to a market weight and are available</p> <p>19 for slaughter, right?</p> <p>20 A. That is fair.</p> <p>21 Q. And I'm wondering whether you have</p> <p>22 identified any instance in which defendants</p> <p>23 failed to slaughter all of the domestic hogs</p> <p>24 that were at market weight and available for</p> <p>25 slaughter?</p>

<p style="text-align: right;">Page 73</p> <p>1 MR. RISSMAN: I will just</p> <p>2 instruct the witness not to -- to only</p> <p>3 testify as to opinions he's offered in</p> <p>4 this case.</p> <p>5 A. Yeah. I mean, sitting here, I'm</p> <p>6 not aware of an occasion where they failed</p> <p>7 to. I'm not even sure I understand -- I</p> <p>8 understand the question. But I can't tell</p> <p>9 you an instance where defendants failed or</p> <p>10 did not fail. I just don't -- I don't have</p> <p>11 recall on that.</p> <p>12 BY MR. COLEMAN:</p> <p>13 Q. Is that something you looked at?</p> <p>14 MR. RISSMAN: Same -- same</p> <p>15 instruction. Instruct the witness not</p> <p>16 to answer any questions about</p> <p>17 preliminary analysis or opinions he</p> <p>18 has not formed.</p> <p>19 A. I think the only opinions that I</p> <p>20 formed with respect to liquidation, if that's</p> <p>21 the topic that we are discussing, and maybe</p> <p>22 it's not. I may be confused.</p> <p>23 BY MR. COLEMAN:</p> <p>24 Q. It's not.</p> <p>25 A. Okay. What's the topic? I'm</p>	<p style="text-align: right;">Page 75</p> <p>1 been slaughtered on that particular Saturday</p> <p>2 are still on the farms getting bigger by the</p> <p>3 day, right?</p> <p>4 MR. RISSMAN: Objection. Form.</p> <p>5 Foundation.</p> <p>6 Same instruction not to offer</p> <p>7 opinions -- offer testimony about</p> <p>8 things you haven't formed an opinion</p> <p>9 on.</p> <p>10 A. You -- the hypothetical here is</p> <p>11 that they're still available on the hog farm,</p> <p>12 and that seems to suggest they haven't made</p> <p>13 their way to the processor yet. But I think</p> <p>14 that this notion of harvest reduction is</p> <p>15 agnostic as to the timing of the delivery of</p> <p>16 the hog to the processing plant. Right.</p> <p>17 It could affect -- it could affect</p> <p>18 output in myriad ways. It could slow down</p> <p>19 hogs coming, but it could also just slow down</p> <p>20 the output, the production, the processing of</p> <p>21 hogs that have already come.</p> <p>22 BY MR. COLEMAN:</p> <p>23 Q. Right. And I'm trying to connect</p> <p>24 the dots here. So if there's a temporary</p> <p>25 reduction in slaughter, one or more</p>
<p style="text-align: right;">Page 74</p> <p>1 sorry.</p> <p>2 Q. At any given time, there's an</p> <p>3 inventory of market hogs available on farms,</p> <p>4 available for slaughter weights, right?</p> <p>5 A. Okay.</p> <p>6 Q. And I am wondering if you're aware</p> <p>7 of any instance in which the defendants</p> <p>8 collectively failed to purchase all of those</p> <p>9 market hogs available for slaughter?</p> <p>10 MR. RISSMAN: I'm going to give</p> <p>11 the same instruction.</p> <p>12 A. Yeah. I don't recall that being</p> <p>13 alleged in the complaint, if that's what you</p> <p>14 are asking.</p> <p>15 BY MR. COLEMAN:</p> <p>16 Q. And you're not -- are you aware of</p> <p>17 any facts indicating that that ever happened?</p> <p>18 MR. RISSMAN: Same instruction.</p> <p>19 A. Yeah. I don't think that I've</p> <p>20 come across such facts. I don't have an</p> <p>21 opinion on that.</p> <p>22 BY MR. COLEMAN:</p> <p>23 Q. And so coming back to the harvest</p> <p>24 issue. If a defendant doesn't run a Saturday</p> <p>25 shift, some hogs -- the hogs that would have</p>	<p style="text-align: right;">Page 76</p> <p>1 defendants don't run a Saturday shift and</p> <p>2 slaughter fewer hogs, what happens to those</p> <p>3 hogs?</p> <p>4 MR. RISSMAN: Same objection.</p> <p>5 Foundation.</p> <p>6 A. Well, I think lots of things could</p> <p>7 happen to them, but the -- what's not</p> <p>8 happening is they're not being processed and</p> <p>9 put into the relevant market that we are</p> <p>10 setting here, and that could generate an</p> <p>11 output effect and the concomitant price</p> <p>12 effect.</p> <p>13 BY MR. COLEMAN:</p> <p>14 Q. Okay. So I want -- I want to push</p> <p>15 back on that.</p> <p>16 The hogs that are not slaughtered</p> <p>17 on a particular Saturday still exist, right?</p> <p>18 They're not slaughtered?</p> <p>19 MR. RISSMAN: Objection. Form</p> <p>20 and foundation.</p> <p>21 A. They're not slaughtered, but</p> <p>22 they're not being put into the market -- the</p> <p>23 relevant market here.</p> <p>24 BY MR. COLEMAN:</p> <p>25 Q. Right. And are you aware of any</p>

<p style="text-align: right;">Page 77</p> <p>1 producers ever liquidating marketing hogs 2 because a processor wouldn't buy them? 3 MR. RISSMAN: Object to form. 4 And I will give the same instruction 5 on not offering testimony on opinions 6 you haven't formed. 7 A. I think the allegations here -- so 8 let me just make clear, the allegations here 9 are that liquidation was a strategy, or 10 lever, to use your word, that was employed by 11 defendants to reduce domestic supply. 12 And you're asking me for the -- do 13 I know of an occasion which liquidation was 14 triggered by a particular processor who had 15 slowed things down. And I don't think that 16 that -- that is what's being alleged, and I 17 don't think that's the -- consistent with the 18 evidence that I've reviewed. 19 BY MR. COLEMAN: 20 Q. Yeah. And in particular, there's 21 allegations about the liquidation of sows, 22 right? 23 A. Yes. 24 Q. And are you aware of any 25 allegations or evidence that there was</p>	<p style="text-align: right;">Page 79</p> <p>1 period, a liquidation of market hogs. 2 MR. RISSMAN: Yeah. I think 3 it's -- same -- same instruction. 4 BY MR. COLEMAN: 5 Q. Do you know of any such facts? 6 MR. RISSMAN: If you haven't 7 formed an opinion on it, I'm 8 instructing you not to answer. 9 A. Okay. I have not formed an 10 opinion on it. 11 MR. COLEMAN: Josh, I'm asking 12 about what facts he knows, and you're 13 instructing him not to answer. 14 MR. RISSMAN: Well, the stip 15 very clearly says that any facts 16 considered but not relied upon in 17 forming an opinion are not -- are out 18 of bounds. 19 BY MR. COLEMAN: 20 Q. You did form an opinion that the 21 reduction in harvest among defendants -- the 22 alleged reduction in harvest among defendants 23 reduced supply, right? 24 A. Yes. 25 Q. And the particular lever you point</p>
<p style="text-align: right;">Page 78</p> <p>1 liquidation of market hogs? 2 MR. RISSMAN: Same objection and 3 instruction. 4 A. I have to go back through the 5 records that I reviewed and the section on 6 liquidation to see if any of it touches hogs. 7 So just sitting here, I'm not going to be 8 able to answer the question. I would have to 9 go back through my section -- through my 10 section of the report. 11 BY MR. COLEMAN: 12 Q. My question is whether you're 13 aware of anything. 14 Do you recall any allegations or 15 evidence, as you're sitting here today, on 16 that point? 17 MR. RISSMAN: So if the witness 18 hasn't formed on opinion about it, I 19 will instruct him not to answer the 20 question. 21 MR. COLEMAN: I'm asking about 22 facts, not opinion. I'm asking him, 23 is he aware of any facts or any 24 allegation that there has ever been, 25 or at least during the relevant class</p>	<p style="text-align: right;">Page 80</p> <p>1 to is a reduction in shifts, Saturday 2 harvest, things of that sort, right? 3 A. Correct. 4 Q. And I'm just trying to understand 5 if there was not liquidation of market hogs, 6 how can that temporary pause in the slaughter 7 reduce the domestic supply of pork? 8 A. Oh, because we are talking about 9 the supply in the relevant market, and so if 10 you're not processing the pork, you're not 11 putting it into the relevant market, that 12 reduces output, and that could have an effect 13 of prices at least in the short run. 14 Q. What's the -- what's the time 15 effect of how long a reduction in a shift or 16 a Saturday slaughter would reduce domestic 17 supply? 18 A. Well, can I ask you, are you -- 19 you want me to assume that they took out 20 Saturday operation on one Saturday or on 21 consecutive Saturdays or two months or a 22 quarter? 23 I think it would help me with the 24 hypothetical. 25 Q. It's not a hypothetical. I'm</p>

<p style="text-align: right;">Page 81</p> <p>1 asking what actually happened on the market. 2 And you formed an opinion that the reduction 3 in Saturday harvest is capable of reducing 4 supply. I want to know how that happened. 5 If all those pigs that weren't 6 harvested on a particular Saturday are on the 7 farms getting fatter by the day, how did the 8 decision to not run a Saturday shift reduce 9 the overall supply of pork? 10 A. Well, it reduces the supply of 11 pork in the relevant market. Right. When 12 they're on the farm, they're not in the 13 relevant market. We defined the relevant 14 market here as -- as pigs that are available 15 post-processing. Processed pork for direct 16 purchasers. So while they're on the farm, 17 they're not -- they're not yet in the 18 relevant market. 19 Q. Do you have an understanding of 20 how much weight hogs gain per day when 21 they're at market weight? 22 A. I don't know the per day. I know 23 that they're targeting something on the order 24 of 270 pounds, but I -- but I don't know how 25 fast they're going per day.</p>	<p style="text-align: right;">Page 83</p> <p>1 those hogs at the time of slaughter, right? 2 A. I think that's fair. 3 Q. So if we are in a situation where 4 there's not a liquidation of market hogs, 5 pausing the slaughter means that those hogs 6 get bigger, right? 7 MR. RISSMAN: Objection. 8 Foundation. 9 A. Well, they could, but you're also 10 asking me to assume away the liquidation that 11 apparently has occurred, so -- but for the 12 hypothetical, I can assume that liquidation 13 is not occurring. 14 BY MR. COLEMAN: 15 Q. Well, I thought we established 16 that you're not aware of any instance of 17 liquidation of market hogs, right? 18 A. Oh. So I'm aware of liquidation, 19 but as to what type of pig, hog versus sow, 20 I -- you know, that I can't tell you sitting 21 here. 22 Q. And I will be specific. So, 23 again, I went through this, but you're not 24 aware of any instance in which defendants or 25 producers in the relevant time period</p>
<p style="text-align: right;">Page 82</p> <p>1 Q. And you understand that the supply 2 of pork is a function of how many hogs are 3 slaughtered and how big those hogs are, 4 right? 5 A. You have to specify as -- into 6 which market. Are we talking about the 7 relevant market here or an upstream market on 8 the farm? 9 Q. I'm just talking about the supply 10 of -- the volume of the pork produced by the 11 harvest. 12 A. From the farms? 13 Q. Hogs are harvested, and how big 14 those hogs are, right? 15 A. You're speaking about supply of 16 the farm at the upstream market, correct? 17 Q. No, I'm talking about the 18 processing. 19 A. Oh, processing. Okay. 20 Q. Right. The slaughter of hogs, the 21 harvest of hogs. 22 A. Okay. 23 Q. The volume of pork produced from 24 the slaughter of hogs is a function of how 25 many hogs are slaughtered and the weight of</p>	<p style="text-align: right;">Page 84</p> <p>1 liquidated market hogs, are you? 2 A. I'm only aware of the stuff that I 3 reviewed and relied on and made it into the 4 liquidation section of my report, and I don't 5 have perfect recall as to the decomposition 6 of the type of pig in that section sitting 7 here. 8 MR. RISSMAN: Craig, we have 9 been going about an hour 25. Do you 10 want take a break? 11 MR. COLEMAN: Yeah, that works. 12 How much time do you need? 13 THE VIDEOGRAPHER: Time is 14 11:05 a.m. Going off the record. 15 (A brief recess was held from 11:05 16 a.m. to 11:21 a.m.) 17 THE VIDEOGRAPHER: The time is 18 11:21 a.m. We are back on the record. 19 BY MR. COLEMAN: 20 Q. So your econometric model is 21 designed to control for the cost of the pig 22 itself, right? 23 A. I mean, that's not what it's 24 designed for, but I do control for the cost 25 of the pig as one of my control variables.</p>

<p style="text-align: right;">Page 85</p> <p>1 Q. And for all hogs purchased by a 2 packer from a producer, that cost of the pig 3 to the packer is the price that the packer 4 pays to the producer, right? 5 A. That's fair, yes. 6 Q. And you have data from the 7 defendants showing their purchases of market 8 hogs, right? 9 A. I believe so, yes. 10 Q. But you did not use that data as a 11 control for the cost of pigs to the 12 defendants, did you? 13 A. I think that's fair. I used the 14 cost to rear the pig 270 pounds as kept by 15 the Iowa researchers as my -- as my control 16 variable. 17 Q. And that's the cost of raising the 18 pig, or at least one of the costs for raising 19 the pigs to the producer, whomever that 20 producer might be, right? 21 A. Yes. The upstream, yes. The cost 22 incurred by the upstream producer of the pig, 23 yes. 24 Q. And you also know that the sales 25 of pigs to packers are subject to USDA</p>	<p style="text-align: right;">Page 87</p> <p>1 Do you know whether the sales of 2 pigs to packers are subject to USDA mandatory 3 price reporting? 4 A. It's possible. I've come across 5 that in the record. It's possible that one 6 of my staffers has reviewed that data, the 7 USDA data, but as you know, I used the Iowa 8 data instead as my control variable for the 9 cost of the pig. 10 Q. Now, when you say the "Iowa data," 11 is that the Iowa State data on corn costs? 12 A. No. Corn was just one of the 13 inputs. But if you -- if you go into the 14 section of my report, it talks about the 15 total cost of rearing a pig at 270; corn 16 being one of the inputs. 17 Q. Are you aware of whether Iowa 18 State also produces data showing break-even 19 amounts for producers? 20 A. Sitting here, I'm not aware of it. 21 Q. Are you familiar with the concept 22 of a break-even amount with regard to market 23 hogs? 24 A. You'd have to give me more context 25 than just break even. Break even in what?</p>
<p style="text-align: right;">Page 86</p> <p>1 mandatory price reporting, right? 2 A. I don't know if I know that. I 3 may be aware of it, but just sitting here, I 4 can't vouch for that fact. 5 Q. So you could confirm that you did 6 not look at USDA data regarding the sales 7 price of market hogs to the packers; is that 8 right? 9 MR. RISSMAN: Objection. Goes 10 beyond the expert step. 11 I will instruct the witness not 12 to answer. 13 THE WITNESS: Okay. 14 MR. COLEMAN: Well, I think he 15 testified he didn't know if it exists, 16 right? 17 MR. RISSMAN: You asked him what 18 he looked at, and -- and the stip 19 doesn't allow you to ask about things 20 that he looked at but didn't consider 21 in forming his opinions, so objection 22 stands. 23 BY MR. COLEMAN: 24 Q. Let's just circle back to make 25 sure we have a clear question and answer.</p>	<p style="text-align: right;">Page 88</p> <p>1 In terms of profits? I don't know what -- I 2 don't know. Just by the word "break even," 3 it's not cuing me into anything. 4 Q. Yeah. You haven't seen that term 5 used in the materials that you reviewed or 6 relied upon? 7 A. I don't think so. 8 Q. There is a point at which -- a 9 producer raising a pig incurs cost to raise 10 the pig, right? 11 A. Yes. 12 Q. And then the producer can sell 13 that pig for either the market price or a 14 contracted price, right? 15 A. It could. I think those are two 16 ways, yes. 17 Q. And there is a point at which the 18 producer breaks even on its costs if the 19 price is sufficient, right? 20 MR. RISSMAN: Object to form. 21 A. Well, there's always a price such 22 that the price just covers your incremental 23 costs, if that's what you're asking. 24 BY MR. COLEMAN: 25 Q. That's a basic economic concept,</p>

<p style="text-align: right;">Page 89</p> <p>1 right, that there's a point in which 2 anybody -- any firm that produces widgets or 3 whatever is making money on a marginal or 4 incremental sale, right? 5 A. Yes. And I would just also note 6 that for a vertically integrated processor, 7 there is no price at the upstream level 8 because they're selling to themselves. But I 9 presume all of these questions are about a 10 nonvertically integrated processor, who is 11 having to actually buy from a third party. 12 Q. Right. That's a helpful 13 clarification. 14 You're aware that there are a 15 number of producers of market hogs in the 16 United States that are not vertically 17 integrated, right? 18 A. Correct. 19 Q. And for those -- are you 20 comfortable with us referring to those as 21 independent producers; that is, they're not 22 owned or controlled by a packer? 23 A. Sure. I can use that term. 24 Q. For those independent producers, 25 like any firm in just about any industry,</p>	<p style="text-align: right;">Page 91</p> <p>1 independent producers, right? 2 A. I did not control for it, but I 3 did -- you know, I absolutely looked at. You 4 know, in my background section I looked at 5 the profitability of the upstream hog 6 producers, and I analyzed, you know, what 7 share of the retail and of the wholesale that 8 they were capturing and how it was falling 9 over time. 10 So I looked at that. I certainly 11 assessed it, but it was not explicitly 12 controlled for in my econometric model. 13 Q. If an independent hog producer 14 makes its own decision to reduce the number 15 of sows it maintains or the number of hogs it 16 raises, you agree that that should not be 17 deemed challenged conduct, right? 18 A. I don't think that's part of the 19 challenged conduct here. If I'm 20 understanding the question correctly, it's 21 just independent upstream hog producer 22 decides to make fewer hogs. That is not -- 23 that's not part of the challenged conduct, as 24 I understand it. 25 Q. And if an independent hog producer</p>
<p style="text-align: right;">Page 90</p> <p>1 there's a point at which they -- they could 2 break even on their costs based on the price, 3 right? 4 A. I think I will grant you that 5 there's a price at which they break even 6 depending on some relevant measure of cost, 7 yes. 8 Q. But in any case, your -- the data 9 that -- or the variable -- your control 10 focused on the cost of raising a hog rather 11 than profitability to the farmer or the 12 producer, right? 13 A. I think that's fair. I'm looking 14 at the cost as opposed to the profitability. 15 They're certainly going to be related, but 16 I'm using the cost as my control variable for 17 what's happening upstream. 18 I have another control variable, 19 too. It's just -- the pig mortality rate, 20 but -- but -- that's capturing upstream 21 activity as well. But, yes, the cost 22 variable I use is the one I describe in my 23 report, the Iowa variable. 24 Q. And you did not control for 25 profitability of hog production for</p>	<p style="text-align: right;">Page 92</p> <p>1 is losing money on every hog that it sells, 2 it's economically reasonable for that 3 producer to reduce production, right? 4 MR. RISSMAN: Object to form. 5 Incomplete hypothetical. 6 A. That's not quite the shutdown rule 7 in economics. I could tell you the shutdown 8 rule, but it's a little more complicated. 9 It's whether -- whether the price goes below 10 your average variable cost. That would 11 suggest shutting down. 12 But so long as you're making -- so 13 long as you're making contributions that are 14 paying down your fixed costs, an economist 15 would advise you to stay in business, keep 16 producing. 17 BY MR. COLEMAN: 18 Q. And if a hog producer makes the 19 judgment that it's economically rational for 20 it to reduce its hog production, based on 21 loss of profitability or whatever is going on 22 in the hog market, then it's economically 23 reasonable to reduce production, right? 24 MR. RISSMAN: Object to form. 25 A. There could be myriad reasons why</p>

<p style="text-align: right;">Page 93</p> <p>1 an independent hog farmer reduces production. 2 I will grant you that. 3 BY MR. COLEMAN: 4 Q. And why -- 5 (Simultaneous unreportable 6 crosstalk.) 7 A. I'm sorry. 8 Q. Go ahead. 9 A. No. I was just going to say, 10 including your hypothetical, which is 11 profitability, yes. 12 Q. And similarly, if a hog producer 13 is not finding it profitable to raise hogs, 14 it might make the decision to engage in fewer 15 farrowings or buy fewer weaner pigs, right? 16 MR. RISSMAN: Object to form and 17 calls for incomplete hypothetical. 18 A. I just want to make sure, we are 19 still talking about the upstream hog 20 producer, and you're asking if they could 21 make a decision to buy fewer pigs themselves? 22 Is that -- is that fair? 23 Do you want to give it to me 24 again? I am sorry. I may have lost this. 25</p>	<p style="text-align: right;">Page 95</p> <p>1 ways that they can achieve an output 2 reduction. I think the ones that you name 3 are reasonable. 4 Q. Did you analyze whether there were 5 any time periods from 2009 to 2018 in which 6 it was economically sensible or rational for 7 independent producers to cut back on hog 8 production? 9 MR. RISSMAN: I'll instruct the 10 witness to only answer to the extent 11 he is offering an opinion in this 12 case. 13 BY MR. COLEMAN: 14 Q. Did you analyze that? 15 MR. RISSMAN: Same objection. 16 If you analyzed it but are not 17 offering an opinion, I'm instructing 18 you not to answer. In other words -- 19 A. Okay. Well, I did not after an 20 opinion on it, so counsel is instructing me 21 not to answer it. 22 BY MR. COLEMAN: 23 Q. Do you know whether there were any 24 periods between 2009 and 2018 in which it was 25 economic rational for independent producers</p>
<p style="text-align: right;">Page 94</p> <p>1 BY MR. COLEMAN: 2 Q. Yes. Yes. 3 So in a period of unprofitability 4 where an independent producer is losing money 5 on their operation, it may be reasonable for 6 that producer to have fewer pigs on the farm, 7 right? 8 MR. RISSMAN: Object to form and 9 incomplete hypothetical. 10 A. I mean, I have to accept that 11 there are conditions under which it would 12 make sense for an independent to reduce 13 output. I mean, that's -- you're asking me 14 almost a possibility here. Of course, it's 15 possible. 16 BY MR. COLEMAN: 17 Q. And there's a number of ways for 18 an independent producer to reduce its output 19 of market hogs, including fewer farrowings, 20 buying fewer weaner pigs, just raising 21 fewer -- fewer weaned pigs, right? 22 A. Well, now you're asking me, like, 23 if I accept the predicate that its -- prices 24 have fallen below the farmer's average 25 variable costs. There are many different</p>	<p style="text-align: right;">Page 96</p> <p>1 to cut back on hog production? 2 MR. RISSMAN: Object to form. 3 Same instruction. 4 A. Oh, okay. You have seen the 5 background section of my report, and I 6 understand counsel doesn't want me to go into 7 new opinions, so I'm not going to answer it. 8 BY MR. COLEMAN: 9 Q. So you might know, but you're not 10 going to tell me? 11 A. I have to do what my counsel tells 12 me to do, and I've been instructed not to 13 answer it. I don't know what else I can say. 14 MR. RISSMAN: If you have an 15 opinion -- if you have offered an 16 opinion about it in the report, you 17 can go into it, or if you have an 18 opinion about it, you're prepared to 19 testify to, but... 20 A. I have not offered an opinion on 21 the profitability. I will leave it at that. 22 BY MR. COLEMAN: 23 Q. If you're studying the extent to 24 which decreased pork supply can be attributed 25 to the defendants in a trust misconduct,</p>

<p style="text-align: right;">Page 97</p> <p>1 isn't it important to know whether 2 independent producers have their own reasons 3 for cutting back on supply? 4 A. No. And that's -- the answer is 5 no in many ways. I mean, that's not what I'm 6 studying, and even if I were studying that, 7 that wouldn't be what's important. 8 I mean, I am studying whether or 9 not there are any price effects. My 10 econometric model is studying whether there 11 are price effects that can be attributed to 12 the challenged conduct. 13 And decision making with respect 14 to upstream on supply, it could -- they could 15 be competitive. It could be monopolized. It 16 could be all sorts of things. But what we 17 are studying here is the output effects on 18 the relevant market, which is in the 19 processing market, and that's what I aimed my 20 analyses at, is what happened to the output 21 in the processing market. 22 Q. If independent producers restrict 23 the number of pigs they're raising on a farm, 24 that reduces the supply of pork, right? 25 MR. RISSMAN: Object to form.</p>	<p style="text-align: right;">Page 99</p> <p>1 from the upstream provider -- an integrated 2 upstream provider. 3 BY MR. COLEMAN: 4 Q. So, for example, for Smithfield, 5 do you know what percentage of the hogs that 6 it slaughters were produced by its farms that 7 it owned versus purchased from independent 8 producers? 9 A. Sitting here, I don't have that 10 number, and I also don't think it would 11 effect -- even knowing it, it couldn't be 12 used in any of the calculations I did. 13 Q. And if we go through the other 14 defendants, Tyson, Hormel, et cetera, do you 15 know what percentage of any of those 16 defendants purchased -- purchased from 17 independent producers as opposed to raise 18 themselves? 19 A. Well, I know which ones are 20 vertically integrated, but I took your 21 question to mean of those that are vertically 22 integrated, you know, what percentage are 23 coming from their own versus third parties. 24 Maybe I misinterpreted the 25 question. But that -- sitting here, I can't</p>
<p style="text-align: right;">Page 98</p> <p>1 A. That's correct. But if you 2 understand the mechanics of my output 3 assessment, it turns entirely on the price 4 effects that can be attributed to the 5 challenged conduct, so it would be impossible 6 to say that that output estimate is being 7 driven by forces that are occurring upstream. 8 BY MR. COLEMAN: 9 Q. What percentage of market hogs 10 sold -- or what percentage of hogs 11 slaughtered by the defendants were raised by 12 independent producers and sold to the 13 packers? 14 A. Sitting -- 15 Q. And, again, during the relevant 16 time period or any particular year during the 17 time period? 18 MR. RISSMAN: Object to form. 19 A. Sitting here, I don't think I have 20 an estimate for you. I know that some but 21 not all of the defendants were vertically 22 integrated into the production -- upstream 23 production of pigs. But I don't -- I don't 24 know what percentage of, say, the sales and 25 the transaction data were sourced internally</p>	<p style="text-align: right;">Page 100</p> <p>1 tell you those splits. 2 Q. Does any defendant raise more than 3 50 percent of the hogs that it slaughters 4 itself? 5 A. Again, sitting here, I can't tell 6 you the percentage. So it's possible that 7 some are over 50, but I just can't tell you. 8 Q. So one of your -- one of the 9 allegations and part of that challenged 10 conduct is a reduction in the sow herd, 11 right? 12 MR. RISSMAN: Object to form. 13 A. I would say -- 14 (Simultaneous unreportable 15 crosstalk.) 16 BY MR. COLEMAN: 17 Q. I am trying to orient you to -- 18 because it's what I want to talk about. 19 Bit if you don't think that's part 20 of the allegations, then that's fine. 21 A. No, I wasn't -- that wasn't where 22 I was going. I just wanted to make clear 23 that there's -- my understanding of a 24 challenged conduct is that it's a single 25 restraint, and it may have touched</p>

<p style="text-align: right;">Page 101</p> <p>1 liquidation.</p> <p>2 That could have been the</p> <p>3 mechanism, but there wasn't a separate</p> <p>4 restraint that's being challenged that -- of</p> <p>5 an agreement that only pertains to</p> <p>6 liquidation. I will grant you that</p> <p>7 liquidation is one of the levers by which the</p> <p>8 alleged conspiracy reduced domestic supply.</p> <p>9 Q. What percentage of the sow herd in</p> <p>10 the United States is owned by the defendants</p> <p>11 versus independent producers?</p> <p>12 A. I -- sitting here, I don't know</p> <p>13 that split.</p> <p>14 Q. And have you been able to identify</p> <p>15 any barriers to an independent producer</p> <p>16 expanding its sow herd in response to a</p> <p>17 defendant reducing its sow herd?</p> <p>18 MR. RISSMAN: I'm going to -- if</p> <p>19 the witness has an opinion about that,</p> <p>20 he can offer it. But if he doesn't</p> <p>21 have an opinion, I will instruct him</p> <p>22 not to answer.</p> <p>23 A. Yeah. I don't have an opinion,</p> <p>24 and the only entry barriers that I looked at,</p> <p>25 as you know, are in the relevant market and</p>	<p style="text-align: right;">Page 103</p> <p>1 could give you a very precise estimate of the</p> <p>2 duration.</p> <p>3 Q. And you are not aware of anything</p> <p>4 stopping independent producers from expanding</p> <p>5 their sow herd in response to cutbacks by</p> <p>6 Smithfield or any other defendant, right?</p> <p>7 MR. RISSMAN: I will instruct</p> <p>8 the witness to answer to the extent he</p> <p>9 has an opinion about that.</p> <p>10 A. I don't have an opinion on that.</p> <p>11 BY MR. COLEMAN:</p> <p>12 Q. What's a gilt?</p> <p>13 A. I think we have -- it's a female</p> <p>14 pig that has -- is not ready to deliver</p> <p>15 piglets or something like that.</p> <p>16 Q. And do you know whether gilts are</p> <p>17 capable of becoming sows?</p> <p>18 A. Are they incapable?</p> <p>19 Q. Capable.</p> <p>20 A. I think eventually they might be</p> <p>21 capable, but I think that that is the word to</p> <p>22 describe them at a certain stage of their</p> <p>23 lives.</p> <p>24 Q. You don't know how long it takes</p> <p>25 for a gilt to become a sow or capable of</p>
<p style="text-align: right;">Page 102</p> <p>1 the processing market.</p> <p>2 BY MR. COLEMAN:</p> <p>3 Q. How long does it take to produce a</p> <p>4 sow that's capable of farrowing piglets?</p> <p>5 A. Sitting here, I don't know that.</p> <p>6 I don't know that by memory.</p> <p>7 Q. Well, you did opine that</p> <p>8 Smithfield's reduction in sows had lingering</p> <p>9 effects -- long-lasting effects on the</p> <p>10 marketplace, right?</p> <p>11 A. I think so. I think I made that</p> <p>12 opinion, but you can take me to it. But why</p> <p>13 don't we just accept it for purposes of the</p> <p>14 next question.</p> <p>15 Q. And so how long could that effect</p> <p>16 last in your mind?</p> <p>17 A. I -- sitting here, I don't think</p> <p>18 it can tell you precisely how long it lasts.</p> <p>19 I think that I have a table or figure that</p> <p>20 plots kind of the suppression of the domestic</p> <p>21 production over time, and I think that that</p> <p>22 could be indicative of how long the effects</p> <p>23 could last, if you look at how long the line</p> <p>24 was below the projected.</p> <p>25 But otherwise, I don't think I</p>	<p style="text-align: right;">Page 104</p> <p>1 becoming a sow?</p> <p>2 A. I've -- I've read that -- I've</p> <p>3 read that, I'm sure, in putting together the</p> <p>4 background section, but I can't give you that</p> <p>5 statistic off the top of my head.</p> <p>6 Q. Do you know anything about</p> <p>7 Smithfield's inventory or Tyson's inventory</p> <p>8 of gilts on their farms when they liquidated</p> <p>9 sows?</p> <p>10 A. Sitting here, no, I can't give you</p> <p>11 a characterization of that.</p> <p>12 Q. Do you know anything about</p> <p>13 circovirus?</p> <p>14 A. No, I've studied other viruses.</p> <p>15 But circa virus?</p> <p>16 Q. Circovirus?</p> <p>17 A. Oh, circovirus. I looked at two</p> <p>18 other viruses, but not circo, I don't think.</p> <p>19 Q. Do you know whether circovirus and</p> <p>20 the vaccine to reduce or eliminate circovirus</p> <p>21 had any impact on supply during the relevant</p> <p>22 time period?</p> <p>23 A. No, but to the extent that it</p> <p>24 affected the pig mortality rate, it would be</p> <p>25 controlled for in my pig mortality variable,</p>

<p style="text-align: right;">Page 105</p> <p>1 but I don't know enough about that virus.</p> <p>2 Q. You understand that pig diseases</p> <p>3 can have significant impacts on the supply of</p> <p>4 hogs and ultimately the supply of pork,</p> <p>5 right?</p> <p>6 A. Correct.</p> <p>7 Q. Could you turn to Tab 62?</p> <p>8 MR. RISSMAN: Give me just a</p> <p>9 second because it's in the back of</p> <p>10 this.</p> <p>11 MR. COLEMAN: I had the same</p> <p>12 problem. The binder is it too big.</p> <p>13 Jacob, you could go ahead and</p> <p>14 call it up on the screen.</p> <p>15 BY MR. COLEMAN:</p> <p>16 Q. Are you with me?</p> <p>17 A. Yes.</p> <p>18 Q. And what's been marked as</p> <p>19 Exhibit 3 is a USDA report with the title</p> <p>20 "Users Guide to USDA's LMR Hog Price</p> <p>21 Reports," right?</p> <p>22 (Exhibit 3 was marked for</p> <p>23 identification.)</p> <p>24 A. Yes.</p> <p>25 BY MR. COLEMAN:</p>	<p style="text-align: right;">Page 107</p> <p>1 A. Yes.</p> <p>2 Q. And does that help you with your</p> <p>3 understanding that sales of hogs to packers</p> <p>4 are subject to USDA mandatory price</p> <p>5 reporting?</p> <p>6 A. That is an inference you could</p> <p>7 make from that. It doesn't say that in the</p> <p>8 text, but I think it's a fair inference that</p> <p>9 you could make.</p> <p>10 Q. Did you read this?</p> <p>11 A. I've read portions of it, not the</p> <p>12 entire thing, but I've -- the portion that</p> <p>13 you just had me read does not say it's a</p> <p>14 requirement that you report your sales to</p> <p>15 USDA. It's an inference you're making.</p> <p>16 Q. Do you know what mandatory price</p> <p>17 reporting is?</p> <p>18 A. Well, from the phrase "mandatory</p> <p>19 price reporting," it would imply that price</p> <p>20 reporting is compelled. It's mandatory.</p> <p>21 Q. You're inferring that from my use</p> <p>22 of the phrase and not your knowledge of what</p> <p>23 it actually is?</p> <p>24 MR. RISSMAN: Object to form.</p> <p>25</p>
<p style="text-align: right;">Page 106</p> <p>1 Q. And that's a document you have</p> <p>2 seen before, and, in fact, it was included in</p> <p>3 your reliance materials, right?</p> <p>4 A. I believe so.</p> <p>5 Q. And it says in the first paragraph</p> <p>6 that: Livestock mandatory reporting provides</p> <p>7 all market participants with the same open</p> <p>8 and transparent data for slaughter cattle,</p> <p>9 swine, sheep, box beef, lamb and wholesale</p> <p>10 pork.</p> <p>11 Do you see that?</p> <p>12 A. Yes.</p> <p>13 Q. And it goes on to say: LMR</p> <p>14 encourages competition in the marketplace by</p> <p>15 vastly improving price and supply</p> <p>16 information, bringing transparency, breadth</p> <p>17 and depth to market reporting. Correct?</p> <p>18 A. Yes.</p> <p>19 Q. And if we go to that subheader,</p> <p>20 "Purchase data," it says: Purchase data</p> <p>21 represents hogs that are purchased during a</p> <p>22 specified time period. Data includes base</p> <p>23 prices for carcass-purchased hogs and net</p> <p>24 prices and hog weights for any live hogs</p> <p>25 purchased, right?</p>	<p style="text-align: right;">Page 108</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. I just want to know what you know</p> <p>3 and don't know.</p> <p>4 So I mean, do you know -- do you</p> <p>5 know anything about USDA mandatory price</p> <p>6 reporting, what's included in the reports</p> <p>7 they publish?</p> <p>8 MR. RISSMAN: Object to form.</p> <p>9 A. I have some idea, yes. What I</p> <p>10 understand is that, unlike Agri Stats, USDA</p> <p>11 is collecting data and presenting it in an</p> <p>12 aggregated form such that members of an</p> <p>13 alleged conspiracy could not find out where</p> <p>14 they are in relation to any particular rival.</p> <p>15 BY MR. COLEMAN:</p> <p>16 Q. So if we go to -- well, the --</p> <p>17 actually, the last bullet point where it says</p> <p>18 net price, on that page, and that's under the</p> <p>19 header "Key LMR Definitions."</p> <p>20 Do you see that?</p> <p>21 A. Yes.</p> <p>22 Q. And the net price is total amount</p> <p>23 paid by the packer to a producer, right?</p> <p>24 A. Yes.</p> <p>25 Q. And if we turn the page, there are</p>

<p style="text-align: right;">Page 109</p> <p>1 a number of purchase types explained. So</p> <p>2 there's a purchase type header.</p> <p>3 Let Jacob catch up with us.</p> <p>4 And purchase types include a</p> <p>5 negotiated purchase, which is defined to be a</p> <p>6 cash or spot market purchase by a packer of</p> <p>7 livestock from a producer under which the</p> <p>8 base price for livestock is determined by the</p> <p>9 seller-buyer interaction and agreement on</p> <p>10 delivery date.</p> <p>11 Do you see that?</p> <p>12 A. Yes.</p> <p>13 Q. And a negotiated purchase would be</p> <p>14 an example of a packer paying money for a</p> <p>15 market hog to an independent producer, right?</p> <p>16 MR. RISSMAN: Objection.</p> <p>17 Foundation.</p> <p>18 A. I don't see that there, but if you</p> <p>19 want me to interpret that language --</p> <p>20 BY MR. COLEMAN:</p> <p>21 Q. No, that's fair. Josh's</p> <p>22 foundation objection is well taken. I don't</p> <p>23 want to put you past what you know and what</p> <p>24 you don't know.</p> <p>25 So if you don't know what a</p>	<p style="text-align: right;">Page 111</p> <p>1 too.</p> <p>2 A. Okay. I see the different</p> <p>3 purchase types. And this is -- my</p> <p>4 understanding is this is what would be</p> <p>5 reported to USDA.</p> <p>6 Q. And in each of those purchase</p> <p>7 types listed here -- there's actually five of</p> <p>8 them -- negotiated purchase, negotiated</p> <p>9 formula purchase, swine or pork market</p> <p>10 formula purchase, other market formula</p> <p>11 purchase or other purchase agreement.</p> <p>12 In each of those, we have a packer</p> <p>13 producing hogs by an independent producer,</p> <p>14 right?</p> <p>15 A. I mean, you could have that. I --</p> <p>16 you keep saying independent producer. I</p> <p>17 don't know why this would necessarily rule</p> <p>18 out a vertically integrated producer, but I</p> <p>19 mean, I can accept that these definitely</p> <p>20 include independents.</p> <p>21 Q. Well, we have a definition of --</p> <p>22 if we scroll down, entities and sellers. And</p> <p>23 there's a specific category for packer-owned</p> <p>24 swine, right?</p> <p>25 MR. COLEMAN: Oh, I'm sorry.</p>
<p style="text-align: right;">Page 110</p> <p>1 negotiated purchase involves, tell me.</p> <p>2 And so the question is, do you</p> <p>3 understand whether negotiated purchases of</p> <p>4 hogs involve a packer paying an independent</p> <p>5 producer for hogs?</p> <p>6 A. I think it can include that. I</p> <p>7 will leave it at that.</p> <p>8 Q. Right. So in a negotiated</p> <p>9 purchase, you got a packer, you got an</p> <p>10 independent producer, and you got a hog. And</p> <p>11 the packer pays the hog. And this is one</p> <p>12 type of the pricing mechanism for that</p> <p>13 purchase, right?</p> <p>14 A. Okay.</p> <p>15 Q. Do you understand that?</p> <p>16 A. Sure.</p> <p>17 Q. And then the other purchase types</p> <p>18 include a negotiated formula purchase, swine</p> <p>19 or pork formula purchase or other market</p> <p>20 formula purchase.</p> <p>21 Do you see that?</p> <p>22 A. Actually, I can't see that, so I</p> <p>23 will go back to the -- I'm looking back at my</p> <p>24 paper version.</p> <p>25 Q. It makes life easier on Jacob,</p>	<p style="text-align: right;">Page 112</p> <p>1 Stay on the same page, Jacob.</p> <p>2 Packer-owned swine is right there.</p> <p>3 A. Yeah, I see it under entity</p> <p>4 sellers.</p> <p>5 BY MR. COLEMAN:</p> <p>6 Q. Right.</p> <p>7 A. Yeah, I see it. I'm looking at</p> <p>8 the paper version. I've got it.</p> <p>9 Q. So the USDA requires packers to</p> <p>10 report whether they've -- whether the --</p> <p>11 those hogs that are reported are</p> <p>12 packer-owned, right?</p> <p>13 MR. RISSMAN: Objection to form</p> <p>14 and foundation.</p> <p>15 A. I think -- yeah, you couldn't tell</p> <p>16 that from this -- this page by itself. So I</p> <p>17 don't know --</p> <p>18 (Simultaneous unreportable</p> <p>19 crosstalk.)</p> <p>20 A. No, I don't know the exact, you</p> <p>21 know, reporting requirements, but it would be</p> <p>22 reasonable to tell the USDA whether or not</p> <p>23 you owned -- were vertically integrated.</p> <p>24 Q. And, in fact, if we look at</p> <p>25 Figure 1 on the next page, it provides a</p>

<p style="text-align: right;">Page 113</p> <p>1 sample report, and there's a category for</p> <p>2 producer-sold hogs, and it includes all the</p> <p>3 hogs sold under the various pricing</p> <p>4 mechanisms, right?</p> <p>5 A. Yes.</p> <p>6 Q. And then we have packer-sold hogs,</p> <p>7 right?</p> <p>8 A. Yes.</p> <p>9 Q. And so for any given report, we</p> <p>10 can tell which hogs were produced by</p> <p>11 vertically integrated packers as packer-owned</p> <p>12 or packer-sold and which were produced by</p> <p>13 independent producers, right?</p> <p>14 MR. RISSMAN: Objection. That</p> <p>15 mischaracterizes the document pretty</p> <p>16 blatantly. I think if you looked at</p> <p>17 the document, you would know that's</p> <p>18 not the case.</p> <p>19 MR. COLEMAN: Josh, I'm not</p> <p>20 going to -- you can object.</p> <p>21 MR. RISSMAN: I'm going to make</p> <p>22 an objection that the bullet point</p> <p>23 next to packer-sold needs to be read</p> <p>24 into the record so it's a complete</p> <p>25 record.</p>	<p style="text-align: right;">Page 115</p> <p>1 I -- what I -- I do not get the impression</p> <p>2 from this page is that this is what's</p> <p>3 necessarily available to the public.</p> <p>4 Q. Do you know whether this</p> <p>5 information is reported out to the public?</p> <p>6 A. My understanding is that what's</p> <p>7 reported out to the public is -- is</p> <p>8 aggregated first so that you wouldn't be able</p> <p>9 to see the kind of detail that might be on a</p> <p>10 report that is filled out and submitted by a</p> <p>11 particular packer.</p> <p>12 Q. Do you know whether the USDA</p> <p>13 produces reports that show how many hogs sold</p> <p>14 in any given time period were producer-sold</p> <p>15 and subject to those various purchase types</p> <p>16 or pricing formulas that are listed there?</p> <p>17 A. Again, my understanding is that</p> <p>18 such reporting would be aggregated across</p> <p>19 multiple packers, and would also come with</p> <p>20 some time delay.</p> <p>21 Q. Yeah. I'm not asking whether you</p> <p>22 can identify particular packers or particular</p> <p>23 producers. I'm simply asking whether -- you</p> <p>24 know whether we can look at the producer-sold</p> <p>25 category and look at any particular USDA</p>
<p style="text-align: right;">Page 114</p> <p>1 MR. COLEMAN: Yeah. I'm just</p> <p>2 trying to figure out what Dr. Singer</p> <p>3 knows, and I'm getting the impression</p> <p>4 that he does not understand the</p> <p>5 difference -- how to ascertain from a</p> <p>6 USDA report which hogs were produced</p> <p>7 by independent producers and which</p> <p>8 were produced by a packer, so --</p> <p>9 MR. RISSMAN: Well, I object to</p> <p>10 the narrative, and I still object to</p> <p>11 your questioning because I think you</p> <p>12 were intentionally mischaracterizing</p> <p>13 the document.</p> <p>14 MR. COLEMAN: I appreciate that.</p> <p>15 Go ahead, Dr. Singer.</p> <p>16 MR. RISSMAN: What's the</p> <p>17 question?</p> <p>18 BY MR. COLEMAN:</p> <p>19 Q. My question is whether you can</p> <p>20 look at a USDA report and ascertain which</p> <p>21 hogs were obtained by independent producers</p> <p>22 by looking at the producer sold category?</p> <p>23 A. My interpretation of this page</p> <p>24 that you're showing me is what would have to</p> <p>25 be filed and submitted to the USDA. What</p>	<p style="text-align: right;">Page 116</p> <p>1 report to understand how many pigs were</p> <p>2 produced by independent producers from that</p> <p>3 report?</p> <p>4 A. I think that you could look at a</p> <p>5 report and get an understanding of what's</p> <p>6 happening in the industry at large across all</p> <p>7 packers with some time delay. But I think</p> <p>8 one of the questions or maybe series of</p> <p>9 questions was -- created an impression -- and</p> <p>10 I just wanted to push back on it -- but that</p> <p>11 this is the kind of detail that a rival could</p> <p>12 observe about another rival packer's</p> <p>13 purchases. I think --</p> <p>14 Q. I don't recall asking any</p> <p>15 questions about that.</p> <p>16 A. You actually used the word --</p> <p>17 (Reporter clarification.)</p> <p>18 A. You actually used the word, "this</p> <p>19 is something we can infer from the report,"</p> <p>20 and it was very misleading because it seemed</p> <p>21 to suggest that "we" is just a casual</p> <p>22 third-party user or some rival packer can see</p> <p>23 this kind of level of detail for a rival</p> <p>24 packer, and I just wanted to make sure the</p> <p>25 record is clear on that.</p>

<p style="text-align: right;">Page 117</p> <p>1 Q. Okay. I appreciate that. 2 I asked you whether you know 3 whether any point in time throughout the 4 alleged conspiracy period how many hogs were 5 produced by independent producers versus 6 vertically integrated packers. 7 And I believe your testimony was 8 that you didn't know, right? 9 A. No, that was not my testimony. My 10 testimony was sitting here, I can't give you 11 the exact number, but I'm sure we could go 12 look it up on a USDA report in the aggregate. 13 Q. Right. And the way we would do 14 that is look at this, the report, reporting 15 out this kind of data, right? 16 MR. RISSMAN: Object to form. 17 And that mischaracterizes the 18 document. 19 A. Right. This is the -- this is the 20 document as I understand -- 21 THE WITNESS: Sorry, Josh, are 22 you still going? 23 MR. RISSMAN: Well, I just think 24 that you need to -- if you're going to 25 ask that question, you need to read</p>	<p style="text-align: right;">Page 119</p> <p>1 MR. COLEMAN: You stated your 2 objection. 3 BY MR. COLEMAN: 4 Q. Please answer the question, 5 Dr. Singer. 6 THE WITNESS: Can I have the 7 question back, please? 8 (The previous question was read 9 back by the court reporter as 10 follows: 11 "QUESTION: And the way we would do 12 that is look at this, the report, 13 reporting out this kind of data, 14 right?") 15 MR. RISSMAN: Same objections. 16 A. So I think that you might be able 17 to get at the question that you're asking 18 through some USDA report. I'm not sure if 19 this is the report that you would use, and, 20 again, I just want to focus on the fact that, 21 setting aside what's in that bullet about 22 packer-to-packer sales, that this is the kind 23 of reporting that would come from a packer to 24 USDA. 25 It's not necessarily the reporting</p>
<p style="text-align: right;">Page 118</p> <p>1 into the record at what point -- 2 MR. COLEMAN: No. 3 MR. RISSMAN: No, don't 4 interrupt my objection. 5 (Reporter clarification.) 6 THE STENOGRAPHER: One at a 7 time. I can't -- 8 MR. RISSMAN: I'm making a 601 9 objection. I think you are really 10 trying to blatantly mischaracterize 11 this document. So if you want to be 12 complete, you need to read in the fact 13 that the packer-sold category is 14 defined as one packer selling to 15 another packer, which is right there 16 next -- 17 MR. COLEMAN: You're testifying, 18 Josh. 19 MR. RISSMAN: Stop 20 mischaracterizing the document. 21 MR. COLEMAN: You're testifying. 22 That was improper, and you know it. 23 MR. RISSMAN: Well, I think 24 you're trying to make this document be 25 something it's not.</p>	<p style="text-align: right;">Page 120</p> <p>1 that a rival packer could observe to monitor 2 an agreement or alleged agreement with one of 3 its horizontal rivals. 4 BY MR. COLEMAN: 5 Q. Yeah. And I'm just trying to 6 understand whether any point in time we can 7 tell -- whether you know we can tell how many 8 hogs are produced by independent producers 9 versus vertically integrated packers by 10 looking at a USDA report. 11 Do you know whether we can 12 ascertain that information through USDA 13 reports? 14 A. I think we probably could. I 15 don't think we could do it just from this 16 report in light of how that packer sold is 17 defined, but I imagine that sort of 18 information is available if you wanted to 19 analyze it. 20 Q. Let me call up Exhibit 65. 21 THE VIDEOGRAPHER: Do you mean 22 Tab 65, sir? 23 MR. COLEMAN: Thank you. I 24 appreciate that. 25 And this will be Exhibit 4.</p>

<p style="text-align: right;">Page 121</p> <p>1 (Exhibit 4 was marked for 2 identification.) 3 A. Okay. I see this. 4 BY MR. COLEMAN: 5 Q. Yeah. So what been marked as 6 Exhibit 4 is a -- entitled "US Hog Marketing 7 Contract Study." The authors are Glenn 8 Grimes and Ron Plain. 9 Are you familiar with Dr. Grimes 10 or Dr. Plain? 11 A. No. 12 Q. And this is -- the letterhead at 13 the top refers to the University of Missouri 14 College of Agriculture, Food and Natural 15 Resources. 16 Do you see that? 17 A. No, I don't. I'm sorry, which - 18 Q. At the very top. 19 A. Oh, let's see. Oh, yes. I see 20 it. I see it, University of Missouri, yes. 21 Q. If we turn to the second page, 22 very top, we've got date January 2009, Glenn 23 Grimes, Professor Emeritus, and Ron Plain, 24 Professor at the University of Minnesota 25 [sic], right?</p>	<p style="text-align: right;">Page 123</p> <p>1 in the context of Exhibit 3, right? 2 A. Yes. 3 Q. Sometimes called the spot market, 4 right? 5 A. Right. 6 Q. And there are also the swine or 7 market -- pork market formula, right? 8 A. I see that. It's number two. 9 Q. And number three is other market 10 formula, and number four is other purchase 11 arrangement, right? 12 A. Right. 13 Q. And then number five is 14 packer-sold hogs, right? 15 A. Right. Can you let me just 16 read -- read down real quick, so I know where 17 we're going. 18 Q. Sure. 19 A. Okay. 20 I got five and six now in my head. 21 Q. Five and six would be the category 22 of hogs raised by packers that are vertically 23 integrated, right? 24 MR. RISSMAN: Object to form. 25 A. I think there's a certain amount</p>
<p style="text-align: right;">Page 122</p> <p>1 A. Missouri. 2 Q. Did I say "Minnesota"? 3 A. Yes. 4 Q. Thanks for that. 5 Yeah. University of Missouri. 6 A. Okay. 7 Q. And this is described as a 8 Department of Agricultural Economics working 9 paper, right? 10 A. Yes. 11 Q. If we go to the middle of the 12 page, it says: Here are the current 13 definitions of the arrangements reported 14 under the MBR system and the changes 15 affecting comparisons of data with earlier 16 studies. 17 Do you see that? 18 A. Yes. 19 Q. And this lists six categories 20 of -- for the reporting of the sale of market 21 hogs, right? 22 A. Yes. It lists six. 23 Q. And so, for example, we got 24 negotiated, and we went -- reviewed the 25 definition of negotiated sales of market hogs</p>	<p style="text-align: right;">Page 124</p> <p>1 of vertical integration certainly in six and 2 most likely in five. 3 BY MR. COLEMAN: 4 Q. And do you know whether those 5 other four categories are hogs that are -- 6 were raised by independent producers and then 7 sold to packers? 8 A. I think that's a pretty fair 9 inference, that they are independent given 10 that five and six -- so hopefully these 11 categories are mutually exclusive, but if 12 they are -- with that caveat, you could infer 13 that one through four is capturing or 14 launching independents. 15 Q. And if we go to the next page on 16 Table 1, there's a table that sets out the 17 data on the percent of US hogs sold through 18 various pricing arrangements, right? 19 A. Right. 20 Q. And 2009, Table 1 shows that 21 5.6 percent of the hogs reported to USDA that 22 were packer-sold, right? 23 A. Yes. 24 Q. And 25.7 percent of the hogs that 25 year were packer-owned, right?</p>

<p style="text-align: right;">Page 125</p> <p>1 A. Yes.</p> <p>2 Q. And the remaining hogs were those</p> <p>3 other four categories of hogs that were</p> <p>4 raised by independent producers prior to sale</p> <p>5 of a packer, right?</p> <p>6 A. I think that's a reasonable</p> <p>7 inference that the other categories are</p> <p>8 capturing independents.</p> <p>9 Q. So in 2009, about 70 percent of</p> <p>10 the hogs -- market hogs sold are slaughtered</p> <p>11 and reported to USDA were raised by</p> <p>12 independent producers, right?</p> <p>13 A. I take it you're just subtracting</p> <p>14 5.6 and 25.7 from a hundred?</p> <p>15 Q. Yes.</p> <p>16 A. Okay. I can follow you. I can do</p> <p>17 the math. I can get you to that 70, yes.</p> <p>18 Q. And so by looking at that USDA</p> <p>19 market mandatory reporting data,</p> <p>20 Professor Plain and Professor Grimes were</p> <p>21 able to set up the numbers showing us that</p> <p>22 70 percent of the hogs slaughtered and</p> <p>23 reported to USDA in 2009 were produced by</p> <p>24 independent producers, right?</p> <p>25 A. That is --</p>	<p style="text-align: right;">Page 127</p> <p>1 basis sitting here to dispute it.</p> <p>2 Q. And I think we previously</p> <p>3 ascertained that you don't know what -- for</p> <p>4 any given defendant, you don't know what</p> <p>5 percentage of their hogs they purchased from</p> <p>6 an independent producer as opposed to produce</p> <p>7 themselves; is that right?</p> <p>8 A. I think, sitting here, I don't</p> <p>9 know that. I surmise that I can probably</p> <p>10 find that out for you, but sitting here, I</p> <p>11 don't know it.</p> <p>12 Q. Do you recognize that there are</p> <p>13 some defendants that are more vertically</p> <p>14 integrated than others?</p> <p>15 A. Sure.</p> <p>16 Q. For example, do you have any idea</p> <p>17 for Smithfield, what percentage of the hogs</p> <p>18 that it slaughters were raised by its own</p> <p>19 farms -- vertically integrated farms as</p> <p>20 opposed to bought from an independent</p> <p>21 producer?</p> <p>22 MR. RISSMAN: Objection. Asked</p> <p>23 and answered.</p> <p>24 A. I don't have a different answer</p> <p>25 for you. Still sitting here, I don't know</p>
<p style="text-align: right;">Page 126</p> <p>1 MR. RISSMAN: Objection.</p> <p>2 Foundation.</p> <p>3 A. It's a reasonable inference. I</p> <p>4 don't want to fully embrace it because, you</p> <p>5 know, I'm seeing it for the first time</p> <p>6 sitting here. But if you asked me to go out</p> <p>7 and estimate that number by year, it seems</p> <p>8 like this study could help inform that</p> <p>9 answer.</p> <p>10 BY MR. COLEMAN:</p> <p>11 Q. On the next page -- the top of the</p> <p>12 page, the first sentence says that: By</p> <p>13 adding the percentage of hogs purchased in</p> <p>14 the negotiated markets to the percentage of</p> <p>15 purchased on a swine-pork market formula, the</p> <p>16 current study indicates that the price of at</p> <p>17 least 49 percent of the hogs in the US was</p> <p>18 directly determined by the negotiated market.</p> <p>19 Do you see that?</p> <p>20 A. Yes.</p> <p>21 Q. And do you have any basis to</p> <p>22 disagree with that?</p> <p>23 A. It's definitional so if that's how</p> <p>24 you want to define the negotiated market, it</p> <p>25 just naturally follows. So I don't have a</p>	<p style="text-align: right;">Page 128</p> <p>1 what it is, and I don't think I reported that</p> <p>2 either in my report.</p> <p>3 BY MR. COLEMAN:</p> <p>4 Q. Is it your opinion that defendants</p> <p>5 shared the same interest with respect to the</p> <p>6 price they paid for hogs regardless of how</p> <p>7 many hogs they produce themselves?</p> <p>8 MR. RISSMAN: I will instruct</p> <p>9 the witness to only answer if he has</p> <p>10 an opinion on that topic.</p> <p>11 A. I don't have an opinion, so I</p> <p>12 guess I won't answer it.</p> <p>13 BY MR. COLEMAN:</p> <p>14 Q. Well, one of the levers to</p> <p>15 implement the conspiracy, as I understand it,</p> <p>16 was to reduce the sow herd, restrict the</p> <p>17 number of hogs on farms. I mean, that's your</p> <p>18 opinion, that that is part of challenged</p> <p>19 conduct or the way that defendants</p> <p>20 implemented the underlying conspiracy, right?</p> <p>21 A. I think that liquidation is one of</p> <p>22 several ways in which they reduced output,</p> <p>23 yes -- alleged to -- yeah, reduced output.</p> <p>24 That's right.</p> <p>25 Q. Do you have an opinion as to</p>

<p style="text-align: right;">Page 129</p> <p>1 whether the reduction in the sow herd or any 2 kind of consequent reduction in the number of 3 hogs produced was in the interest of all 4 defendants? 5 MR. RISSMAN: Same limiting 6 instruction. 7 A. I think that my model shows that 8 the challenged conduct can be associated with 9 artificially inflated prices at the packer or 10 processing level, and the extent that all 11 defendants are processors, then they would 12 have a shared and common interest in engaging 13 in conduct that artificially inflated those 14 prices that would artificially inflate their 15 profits. 16 BY MR. COLEMAN: 17 Q. And so you have the opinion that 18 it was in Hormel's interest, for example, to 19 raise the price of the hogs that it 20 purchased? 21 MR. RISSMAN: Objection. Form. 22 Mischaracterizes testimony. And same 23 limiting instruction on whether you 24 have an opinion on that. 25 A. Yeah. I don't have opinions on --</p>	<p style="text-align: right;">Page 131</p> <p>1 herd and consequently reduce the supply of 2 market hogs available right? 3 A. That's one of the three levers. 4 That one occurs, I will grant you, in the 5 upstream market, but the other two are 6 occurring in relevant markets. 7 Q. And did you evaluate the extent to 8 which the reduction in sow herd raised the 9 price of market hogs? 10 A. Again, are you asking me about the 11 upstream prices? I don't have a model that 12 explains how the challenged conduct affected 13 upstream prices. I'm aiming my analysis and 14 attention on price effects in the relevant 15 market. 16 Q. Yeah, I appreciate that 17 clarification. 18 Just so we are clear, by "upstream 19 market," do you mean the price that packers 20 pay for the hogs that they're purchasing from 21 independent producers? 22 A. Not the price, but hog production. 23 The price would be part of it, but yes. 24 It's -- the upstream market is the hog 25 production market, yes.</p>
<p style="text-align: right;">Page 130</p> <p>1 and that's not even characterizing the 2 effects of the alleged conspiracy. The 3 effects of the alleged conspiracy is to 4 inflate prices in the relevant market, and 5 you're asking me whether price effects in the 6 upstream market was consistent with the 7 interest of Hormel. 8 I don't have opinions about the 9 price effects in the upstream. I don't think 10 the alleged conspiracy was aimed at 11 effectuating price effects in the upstream 12 market. 13 BY MR. COLEMAN: 14 Q. Yeah. Because that wouldn't make 15 sense, right, for pork packers to conspire to 16 raise the price that they pay for market 17 hogs? 18 MR. RISSMAN: Object to form. 19 A. I think that if there were 20 conspiracy, that the objective would be to 21 artificially inflate the prices of processed 22 pigs that they sold. 23 BY MR. COLEMAN: 24 Q. One of the levers to do that would 25 be to -- in your mind, was to reduce the sow</p>	<p style="text-align: right;">Page 132</p> <p>1 Q. Do you have any opinion as to 2 whether the defendant pork packers compete to 3 purchase hogs? 4 A. Not really. I have no opinions 5 for the purpose of this case. I don't. I 6 haven't studied the nature of the rivalry in 7 the upstream market. 8 Q. How many hog farms are there in 9 the United States? 10 A. I don't know. 11 Q. And do you -- in your mind, do you 12 have any opinion as to whether hog production 13 is relatively concentrated or unconcentrated? 14 A. My understanding is that it, at 15 least compared to the packer market, the 16 relevant market here is less concentrated. 17 But I can't -- sitting here, I haven't 18 studied the level of concentration in the 19 upstream market. 20 Q. The USDA maintains data and 21 information about the number and size of hog 22 producers, right? 23 MR. RISSMAN: Objection. 24 Foundation. 25 A. It's possible they do.</p>

<p style="text-align: right;">Page 133</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. You just don't know one way or the</p> <p>3 other?</p> <p>4 A. It's not something I studied. I</p> <p>5 studied phenomenon in the relevant market,</p> <p>6 not in the upstream market.</p> <p>7 Q. Is it -- do you think the hog</p> <p>8 market and production by independent</p> <p>9 producers is completely irrelevant to your</p> <p>10 analysis?</p> <p>11 A. I think that to the extent there</p> <p>12 was a conspiracy to raise prices and suppress</p> <p>13 output in the processing market, that that</p> <p>14 could have anticompetitive effects regardless</p> <p>15 of what is going on upstream.</p> <p>16 So "irrelevant" is kind of a harsh</p> <p>17 term, but I'm having a hard time</p> <p>18 contemplating a fact pattern, whether it's</p> <p>19 perfectly competitively supplied upstream,</p> <p>20 perfectly monopolized upstream. That would</p> <p>21 somehow upset or negate a conspiracy to raise</p> <p>22 prices in the relevant market.</p> <p>23 I'm having a hard time figuring</p> <p>24 out how you get out of that one by pointing</p> <p>25 to what's happening upstream.</p>	<p style="text-align: right;">Page 135</p> <p>1 by the market. Now, to the extent that the</p> <p>2 packers have buying power, they could</p> <p>3 suppress the price below competitive levels,</p> <p>4 and that's consistent with, I think, Figure 4</p> <p>5 in my report in the background section.</p> <p>6 Q. And that would be the packers'</p> <p>7 interest, if anything, right?</p> <p>8 If there was a conspiracy and</p> <p>9 cartel behavior with respect to buying hogs,</p> <p>10 it would be to lower the price they were</p> <p>11 paying for hogs, right?</p> <p>12 MR. RISSMAN: Object to form.</p> <p>13 A. No, I don't like -- I don't like</p> <p>14 how you put it because you act as if that's</p> <p>15 the only thing that could raise their</p> <p>16 profits. It's true that if they could</p> <p>17 conspire to reduce the price of an input,</p> <p>18 that would increase their profits.</p> <p>19 But it's also true that if they</p> <p>20 could conspire to raise the price of what</p> <p>21 they're selling in the relevant market, the</p> <p>22 processing market, that would also increase</p> <p>23 their profits. They aren't mutually</p> <p>24 exclusive.</p> <p>25</p>
<p style="text-align: right;">Page 134</p> <p>1 Q. Well, you're not aware of any</p> <p>2 instance in which -- in the relevant time</p> <p>3 period in which packers declined to purchase</p> <p>4 and harvest the hogs produced by independent</p> <p>5 farmers, right?</p> <p>6 MR. RISSMAN: Objection. Form.</p> <p>7 Calls for speculation.</p> <p>8 A. I don't think that was one of the</p> <p>9 levers that I reviewed. I reviewed</p> <p>10 liquidation, which is happening upstream, and</p> <p>11 harvest reduction and exports. Those are the</p> <p>12 levers that I reviewed.</p> <p>13 BY MR. COLEMAN:</p> <p>14 Q. And independent producers make the</p> <p>15 decision about how many sows they want to</p> <p>16 maintain, right?</p> <p>17 MR. RISSMAN: Objection.</p> <p>18 Foundation.</p> <p>19 A. I think that a firm that lacks</p> <p>20 market power is going -- can produce as much</p> <p>21 it wants at the prevailing market price.</p> <p>22 Q. But prevailing market price for an</p> <p>23 independent producer is the price that the</p> <p>24 packers paid for the hog, right?</p> <p>25 A. Well, it's the price that is set</p>	<p style="text-align: right;">Page 136</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. My point was if there was -- if a</p> <p>3 conspiracy extended to the purchase of market</p> <p>4 hogs, and the cartel that you assumed to have</p> <p>5 exist existed, the interest of the cartel</p> <p>6 would have been in lowering the price that</p> <p>7 they paid for -- for hogs, right?</p> <p>8 MR. RISSMAN: Object to form.</p> <p>9 A. Yeah. I don't think that's what</p> <p>10 the conspiracy -- the alleged conspiracy is</p> <p>11 about, as I understand the complaint and</p> <p>12 challenged conduct. I don't think there's an</p> <p>13 attempt to suppress prices by virtue -- in</p> <p>14 the upstream market by virtue of</p> <p>15 coordination.</p> <p>16 I just don't recall that being an</p> <p>17 element of the case.</p> <p>18 BY MR. COLEMAN:</p> <p>19 Q. There's no allegation of that kind</p> <p>20 of collusion, right?</p> <p>21 A. I don't recall one. I would have</p> <p>22 to -- you know, to feel comfortable and</p> <p>23 confident, I would have to go back through</p> <p>24 the complaint, but my understanding is that</p> <p>25 the allegations are aimed at competitive</p>

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1 facts or anticompetitive facts in the
2 processing market and what's sold by the
3 defendants.
4 Q. And you would agree that a
5 decision by an individual farm to
6 underproduce in a competitive market is met
7 by rivals filling the production gap, right?
8 MR. RISSMAN: Objection. Vague
9 and incomplete hypothetical.
10 A. Just to make sure I have it, this
11 is a -- an independent firm or just a firm in
12 a competitive market, you want me to assume?
13 BY MR. COLEMAN:
14 Q. Yes.
15 A. Yeah. And their decision not to
16 produce is going to redound to the benefit of
17 other rivals; that's what you're asking?
18 Q. My question was whether -- if
19 it -- in a competitive market, if one
20 individual firm reduces its production or
21 underproduces -- that loss of production will
22 be met by rivals filling in the production
23 gap, right?
24 MR. RISSMAN: Object to form.
25 A. I think that's fair. By

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1 definition, if we are ask -- we are talking
2 about an atomistic firm that lacks market
3 power, then its decision to withhold
4 production by itself is not going to affect
5 market prices.
6 BY MR. COLEMAN:
7 Q. So what prevented the independent
8 producers from expanding their sow herds or
9 adding production, increase the farrowings
10 and buying more weaner pigs from Canada, any
11 of those things in response to Smithfield or
12 Tyson reducing their sow herd?
13 MR. RISSMAN: Object to form.
14 And if you studied that and have an
15 opinion to offer, you can do that.
16 A. I haven't studied the reaction of
17 independents to the liquidation that occurred
18 here. But I will note that based on the
19 figure that you just gave me, about
20 30 percent being controlled by the packers
21 themselves, that seems to be a substantial
22 and economically significant share such that
23 if there were attempts by the packers to
24 liquidate and to reduce supply that could
25 have an effect that wouldn't be easily met by

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1 the independents. I will just leave it at
2 that.
3 BY MR. COLEMAN:
4 Q. You haven't studied that?
5 A. I have not. I have not.
6 Q. I'm going to pull up Tab 66.
7 MR. COLEMAN: Jacob, are we on
8 Exhibit 5?
9 MR. RISSMAN: This one has been
10 marked previously. Do you want to
11 keep the same marking or --
12 MR. COLEMAN: Oh, yeah. Thanks
13 for that.
14 (Exhibit 5 was marked for
15 identification.)
16 BY MR. COLEMAN:
17 Q. Yeah. This has been previously
18 marked as Meyer Exhibit 2.
19 And, Dr. Singer, let me know when
20 you're -- when you're with us and ready to --
21 A. I'm with you. I've not read the
22 study, but, yeah, I've seen it. Now I've
23 looked at it, at least the title.
24 Q. And you're familiar with
25 Dr. Meyer, right, Dr. Steve Meyer, who

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1 authored this article?
2 A. I don't know if I'm familiar.
3 It's possible that I've cited something else
4 he's done, but I -- just sitting here, the
5 name is not familiar.
6 Q. You cited him multiple times in
7 your report, right?
8 A. I would have to go back. I don't
9 remember the author of every study. You
10 know, the report has hundreds of citations,
11 so it's possible that I cited him multiple
12 times.
13 Q. You recognize that Dr. Meyer is an
14 agricultural economist with particular focus
15 on the hog industry, right?
16 MR. RISSMAN: Object to form.
17 Foundation.
18 BY MR. COLEMAN:
19 Q. If you -- I am sorry. If you
20 don't know, you don't know.
21 A. I mean, based on -- all I can do
22 is -- based on the study that you're showing
23 me, that looks like it's certainly an
24 interest of his.
25 Q. If you turn to page -- the second

<p style="text-align: right;">Page 141</p> <p>1 page of the document, scroll down to: The</p> <p>2 importance of packing capacity.</p> <p>3 And the second paragraph there</p> <p>4 says: Furthermore, no one in the packing</p> <p>5 industry sector decides how much to produce.</p> <p>6 That decision rests solely with the people</p> <p>7 who breed and farrow sows.</p> <p>8 Do you see that?</p> <p>9 A. Yes.</p> <p>10 Q. Do you have a basis to disagree</p> <p>11 with Dr. Meyer's assessment on that point?</p> <p>12 MR. RISSMAN: Object to form and</p> <p>13 foundation.</p> <p>14 A. Yes, I do have a basis. If what</p> <p>15 he's saying is producing in a relevant</p> <p>16 market, then I've seen record evidence that</p> <p>17 is inconsistent with that claim.</p> <p>18 If he's using the word "produce"</p> <p>19 to explain what's happening upstream in the</p> <p>20 pig production market, then I would agree</p> <p>21 with it. It's not clear and I can't -- I</p> <p>22 can't -- I would have to read the surrounding</p> <p>23 paragraphs to understand what he means by how</p> <p>24 much to produce.</p> <p>25</p>	<p style="text-align: right;">Page 143</p> <p>1 that would allow a large packer to influence</p> <p>2 the output in the upstream market. One is to</p> <p>3 the extent they're vertically integrated,</p> <p>4 that's their decision about how much to</p> <p>5 produce.</p> <p>6 But, two, to the extent they have</p> <p>7 monopsony power -- and a lot of these</p> <p>8 defendants are very large buyers in the</p> <p>9 upstream market -- they could -- they could</p> <p>10 suppress output by pushing the upstream</p> <p>11 prices below the marginal revenue product</p> <p>12 below the competitive levels.</p> <p>13 Q. Yeah. We have established that</p> <p>14 there's no allegation or evidence that you've</p> <p>15 reviewed of an exercise of monopsony power by</p> <p>16 the defendants, right?</p> <p>17 A. No, that's not true. Well, I just</p> <p>18 -- for the record, I've got a figure showing</p> <p>19 that there does appear to have been a squeeze</p> <p>20 on the independent farmers over the course of</p> <p>21 the class period.</p> <p>22 And, second, I'm aware of many</p> <p>23 studies, including one that was issued by the</p> <p>24 White House recently, suggesting that, in</p> <p>25 fact, the packers are exercising buying power</p>
<p style="text-align: right;">Page 142</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. Yeah, I appreciate that</p> <p>3 clarification.</p> <p>4 So you would agree with respect to</p> <p>5 the supply of hogs available, decisions about</p> <p>6 how many hogs to produce rests with the</p> <p>7 people who breed and farrow sows, right?</p> <p>8 A. Yes, with the caveat, that some of</p> <p>9 those people are packers themselves. So I</p> <p>10 think you need to carve out those, and just</p> <p>11 as you did with your prior questions, you had</p> <p>12 asked me, you know, if the packers have</p> <p>13 control over what the independents are</p> <p>14 producing, and I would say yes, to the extent</p> <p>15 that they can effectuate a price reduction</p> <p>16 from those independents, they could -- they</p> <p>17 could -- they could, in fact, influence how</p> <p>18 much is being produced in the upstream</p> <p>19 market.</p> <p>20 Q. And specifically what packers had</p> <p>21 the ability to material -- materially control</p> <p>22 the volume of hogs being produced in the</p> <p>23 upstream market as you described it?</p> <p>24 A. So -- so I think we have</p> <p>25 identified through this Q&A two mechanisms</p>	<p style="text-align: right;">Page 144</p> <p>1 in squeezing independent farmers in the</p> <p>2 upstream market.</p> <p>3 Q. Is that an allegation anywhere in</p> <p>4 the complaint?</p> <p>5 A. I don't think that it relates to</p> <p>6 the complaint. You're asking me if I'm aware</p> <p>7 of it, and I'm aware of such studies.</p> <p>8 Q. Did you form any opinions about</p> <p>9 that?</p> <p>10 A. Not for the purpose of this</p> <p>11 report. Not for the purpose of this report.</p> <p>12 But I'm aware of authoritative sources saying</p> <p>13 that that has, in fact, happened.</p> <p>14 Q. Did you provide those as materials</p> <p>15 relied upon?</p> <p>16 A. Yes. I think that around</p> <p>17 Figure 4, I cite a study that was recently</p> <p>18 released by, I believe the White House. We</p> <p>19 can go look around Figure 4 and Figure 5.</p> <p>20 I don't know if I'm going to be</p> <p>21 able to call up the site, but I do remember</p> <p>22 that in my report about -- about agencies or</p> <p>23 the White House recently investigating this</p> <p>24 issue.</p> <p>25 Q. And --</p>

<p style="text-align: right;">Page 145</p> <p>1 (Simultaneous unreportable 2 crosstalk.) 3 A. I found it. I didn't mean -- but 4 it is in Footnote 18. That's the Brian Deese 5 study that came out of the White House. 6 BY MR. COLEMAN: 7 Q. What page of your report are you 8 looking at? 9 A. Page 10, Footnote 18. 10 Q. And -- yeah. So tell us about 11 this White House investigation on which 12 you're relying. What years was that -- were 13 they investigating? 14 A. Well, they were investigating the 15 past -- I mean, it just came out in September 16 of 2021. So they would be studying a period 17 that coincides with the class period and the 18 conduct period here. 19 Q. Sure about that? 20 A. Yes. 21 Q. And did you attempt to -- did you 22 view that as challenged conduct -- 23 A. No. I mean -- 24 Q. -- an exercise of monopsony power 25 to squeeze independent pork producers?</p>	<p style="text-align: right;">Page 147</p> <p>1 A. Well, they decide how much in 2 response to various market phenomenon, 3 including market prices, and if prices are 4 being artificially suppressed by packers with 5 buying power that could affect their decision 6 of how much to supply. 7 BY MR. COLEMAN: 8 Q. My question was whether they make 9 that decision as to how many barns to 10 maintain or infrastructure for raising hogs. 11 That's the farmer's decision, 12 right? 13 A. Ultimately -- 14 MR. RISSMAN: Objection. 15 A. Ultimately, they make the decision 16 in response to prevailing market conditions, 17 and to the extent that packers with buying 18 power can suppress prices below competitive 19 levels of the upstream market, that could 20 affect the decision by independent farmers as 21 to how much to produce. 22 BY MR. COLEMAN: 23 Q. But they make the decision, right? 24 MR. RISSMAN: Same objection. 25 A. I mean, again, with the caveat</p>
<p style="text-align: right;">Page 146</p> <p>1 A. I don't think that that's part of 2 the challenged conduct, but you're asking me 3 if I thought the packers could wield any 4 influence as to production or output 5 decisions upstream, and the answer is yes. 6 And I've given you two mechanisms 7 by which they could do that. 8 Q. But you have not formed any 9 opinions as to whether they actually used 10 monopsony power in this period, right? 11 A. I don't think that I formed 12 economic opinions. I just relayed the 13 research from the White House. And I -- and 14 in Figure 5, as you know, I show that the 15 spread that was being enjoyed by the packers 16 was growing over time, and if you compare it 17 to Figure 4, you can see part of that 18 enhanced spread came off the backs of the 19 farmers. 20 Q. Do you -- independent producers 21 decide how many barns and how much 22 infrastructure for raising hogs they want to 23 have on their farms, right? 24 MR. RISSMAN: Objection. Form. 25 Foundation.</p>	<p style="text-align: right;">Page 148</p> <p>1 that they're not making it in a vacuum. They 2 are making it in response to market forces, 3 some of which are influenced directly by 4 defendants. 5 BY MR. COLEMAN: 6 Q. And, again, you did not form any 7 opinion as to whether the packers were 8 conspiring or deliberately collectively 9 suppressing the market price of hogs, right? 10 MR. RISSMAN: Objection. Asked 11 and answered. 12 A. I don't think that's part of my 13 opinion, and I don't think that's part of the 14 allegation here. 15 BY MR. COLEMAN: 16 Q. Which packers are engaged in a 17 material amount of hog production? 18 MR. RISSMAN: Object to form. 19 Vague. 20 A. I think that I have a table that 21 shows which ones are vertically integrated. 22 I don't know if I will be able to take it to 23 you in realtime, but I seem to recall listing 24 that -- oh, on Page 20, I describe which ones 25 are vertically integrated.</p>

<p style="text-align: right;">Page 149</p> <p>1 But I seem to recall a table to</p> <p>2 the same effect. And I don't think that I</p> <p>3 distinguished between materially. I don't</p> <p>4 even know if that means materially integrated</p> <p>5 versus nonmaterially. I just did integrated.</p> <p>6 BY MR. COLEMAN:</p> <p>7 Q. Can you give me name? I think we</p> <p>8 said Smithfield and Tyson had a sow, or</p> <p>9 anybody else -- do you know whether any other</p> <p>10 defendant is vertically integrated?</p> <p>11 A. Well, let's go through Page 20</p> <p>12 where I bullet out each of the defendants.</p> <p>13 Q. Is that the extent of the</p> <p>14 information you have about the vertically</p> <p>15 integration of the defendants?</p> <p>16 MR. RISSMAN: Object to form.</p> <p>17 A. I don't -- I don't think it's the</p> <p>18 extent because I seem to remember a table --</p> <p>19 and I could be misremembering -- that tells</p> <p>20 us which ones are vertically integrated. But</p> <p>21 I know that in this summary on Page 20, I say</p> <p>22 that -- yeah. I don't think that this is --</p> <p>23 this is the place. I am reading 20 now.</p> <p>24 BY MR. COLEMAN:</p> <p>25 Q. Yeah. That's fine. So one -- one</p>	<p style="text-align: right;">Page 151</p> <p>1 increments, so what's the time -- how</p> <p>2 long have we been going in this</p> <p>3 session?</p> <p>4 MR. RISSMAN: Little less than</p> <p>5 an hour 20.</p> <p>6 THE WITNESS: Why don't we take</p> <p>7 it to an hour and 30. Is that all</p> <p>8 right? And we could just kind of</p> <p>9 stick to the hour 30 on each session.</p> <p>10 Is that all right?</p> <p>11 MR. RISSMAN: It's fine with me.</p> <p>12 Is that okay with you, Craig?</p> <p>13 MR. COLEMAN: I'm fine with</p> <p>14 that, and feel free to interrupt me</p> <p>15 when you're ready.</p> <p>16 THE WITNESS: I'm not keeping</p> <p>17 time. But if someone were to tell me</p> <p>18 we are at the 1:30 point on this tape,</p> <p>19 that would be nice.</p> <p>20 MR. RISSMAN: That's fine.</p> <p>21 BY MR. COLEMAN:</p> <p>22 Q. Let's have you turn to Tab 26.</p> <p>23 MR. COLEMAN: And, Jacob, you</p> <p>24 could pull that up on the screen.</p> <p>25 And I've got to engage in the</p>
<p style="text-align: right;">Page 150</p> <p>1 source of information if we wanted to know</p> <p>2 the extent to which each defendant is</p> <p>3 vertically integrated would be to look at</p> <p>4 their hog acquisition data, right, to tell</p> <p>5 how many hogs they acquired and from what</p> <p>6 source?</p> <p>7 A. Yeah, I think Agri Stats would</p> <p>8 provide that in at least one of its reports.</p> <p>9 Q. And do you know whether defendants</p> <p>10 produced hog acquisition data in this case</p> <p>11 themselves?</p> <p>12 A. Well, I think that we have access</p> <p>13 to all of the -- all of the Agri Stats</p> <p>14 reports. And I think there are some reports</p> <p>15 that are aimed at the upstream market, and</p> <p>16 that's where I would go to try to get that</p> <p>17 sort of information.</p> <p>18 MR. RISSMAN: We have been going</p> <p>19 another hour 20. Hal is on the</p> <p>20 East Coast.</p> <p>21 So I don't know how you feel</p> <p>22 about lunch, Dr. Singer. If you want</p> <p>23 to keep going or what you want to do.</p> <p>24 THE WITNESS: Well, I think that</p> <p>25 we should be moving in hour-and-a-half</p>	<p style="text-align: right;">Page 152</p> <p>1 same binder-flipping exercise that you</p> <p>2 do.</p> <p>3 MR. RISSMAN: This is 5?</p> <p>4 MR. COLEMAN: I want to say 6.</p> <p>5 Jacob, can you help us out?</p> <p>6 THE VIDEOGRAPHER: It should be</p> <p>7 6, sir.</p> <p>8 (Exhibit 6 was marked for</p> <p>9 identification.)</p> <p>10 BY MR. COLEMAN:</p> <p>11 Q. Dr. Singer, are you with us?</p> <p>12 A. Yeah.</p> <p>13 Q. So what's been marked as Exhibit 6</p> <p>14 is a document created by the Pork Checkoff</p> <p>15 with the title: Quick Facts. The Pork</p> <p>16 Industry at a Glance.</p> <p>17 Are you with me?</p> <p>18 A. Yes.</p> <p>19 Q. And are you familiar with Pork</p> <p>20 Checkoff?</p> <p>21 A. It's not ringing a bell, but I --</p> <p>22 leave it at that.</p> <p>23 Q. This was a document on which you</p> <p>24 relied in your report, right?</p> <p>25 A. You have to take me to -- I've got</p>

<p style="text-align: right;">Page 153</p> <p>1 hundreds of documents.</p> <p>2 Q. Footnote 24.</p> <p>3 A. What page, sorry?</p> <p>4 Q. Footnote 24.</p> <p>5 A. Let me go look.</p> <p>6 Yes, I cite it -- I cite it for</p> <p>7 that proposition that: For decades, pigs</p> <p>8 have been genetically bred to be leaner yet</p> <p>9 heavier than their wild predecessors.</p> <p>10 Q. Did you read the report?</p> <p>11 A. I think that for something like</p> <p>12 this on the background section, that a</p> <p>13 staffer would have read it and showed it to</p> <p>14 me, and we would have decided whether or not</p> <p>15 it was worthy of inclusion in the background</p> <p>16 section.</p> <p>17 Q. Page 45 of the document --</p> <p>18 MR. COLEMAN: Jacob, for your</p> <p>19 benefit, I think it's 50 out of 134 of</p> <p>20 the PDF.</p> <p>21 MR. RISSMAN: I'm sorry. What</p> <p>22 page are you on, Craig?</p> <p>23 MR. COLEMAN: I'm on Page 45,</p> <p>24 referring to the numbered page of the</p> <p>25 document.</p>	<p style="text-align: right;">Page 155</p> <p>1 Q. Right. And if that doesn't</p> <p>2 happen, that's a major problem for producers,</p> <p>3 right?</p> <p>4 MR. RISSMAN: Object to form.</p> <p>5 A. If -- if -- I mean, I'm going to</p> <p>6 accept your hypothetical. I don't know how</p> <p>7 it could happen, but it costs went up in a</p> <p>8 competitively provided industry but prices</p> <p>9 didn't go up -- I mean, it's counterfactual,</p> <p>10 but I am just setting aside all the problems</p> <p>11 with it.</p> <p>12 If you're just asking me to assume</p> <p>13 a vacuum, then, yes, I mean, that would be</p> <p>14 bad for -- for producers.</p> <p>15 BY MR. COLEMAN:</p> <p>16 Q. In any case, the Pork Checkoff</p> <p>17 board tells us that in 2008 was a period that</p> <p>18 caused many producers extreme financial</p> <p>19 distress, right?</p> <p>20 MR. RISSMAN: Objection.</p> <p>21 Foundation.</p> <p>22 A. That's what it says, yes.</p> <p>23 BY MR. COLEMAN:</p> <p>24 Q. And do you dispute that 2008 was a</p> <p>25 period of extreme financial hardship for many</p>
<p style="text-align: right;">Page 154</p> <p>1 There we go. Guy Fieri is a</p> <p>2 helpful reference point.</p> <p>3 BY MR. COLEMAN:</p> <p>4 Q. So in 2008, the Pork Checkoff</p> <p>5 tells us that: Historically unprecedented</p> <p>6 high feed costs led to one of the most</p> <p>7 challenging times in the history for pork</p> <p>8 producers. The blow, softened only by</p> <p>9 record-high market hog prices, caused many</p> <p>10 producers extreme financial distress.</p> <p>11 Do you see that?</p> <p>12 A. Yes. And it makes me excited that</p> <p>13 I controlled for the cost of rearing a pig in</p> <p>14 my regression.</p> <p>15 Q. Yeah. Notwithstanding higher</p> <p>16 prices that year, it was a period of extreme</p> <p>17 financial distress for producers, right?</p> <p>18 A. It actually says the opposite. It</p> <p>19 says that prices went up to accommodate those</p> <p>20 higher costs, which is what I'm hoping my</p> <p>21 cost variable, at least in part, has</p> <p>22 captured.</p> <p>23 So this episode shows that when</p> <p>24 costs go up, prices go up in the upstream</p> <p>25 market.</p>	<p style="text-align: right;">Page 156</p> <p>1 pork producers?</p> <p>2 A. I don't have a reason to dispute</p> <p>3 it.</p> <p>4 Q. And if we go to the next page,</p> <p>5 Page 46, there's a reference to: Beginning</p> <p>6 in April of 2009: News coverage of H1N1 or</p> <p>7 swine flu, as it was erroneously referred to</p> <p>8 by the media, added to an already challenging</p> <p>9 economic time for producers. It was</p> <p>10 estimated that producers lost more than</p> <p>11 \$2 billion after the outbreak of H1N1.</p> <p>12 Do you see that?</p> <p>13 A. Yes. And it also makes me excited</p> <p>14 that I controlled for H1N1 with a new dummy</p> <p>15 variable.</p> <p>16 Q. Yeah. And your testimony was that</p> <p>17 it was a counterfactual scenario where</p> <p>18 producers would be faced with increasing</p> <p>19 costs but lowering prices. But the reality</p> <p>20 is that's exactly what happened, isn't it?</p> <p>21 A. I don't see how you get that from</p> <p>22 that bullet in 2009. All it says is that --</p> <p>23 is that they lost more than 2 billion after</p> <p>24 the outbreak of H1N1.</p> <p>25 You're asking if that was an</p>

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1 episode in which prices went below cost?

2 Q. Do you know whether the swine flu
3 lowered demand for US pork and ultimately
4 domestic hogs?

5 A. Yes, I do know.

6 Q. And do you know whether that
7 reduction in demand for US pork and US hogs
8 resulted in prices for market hogs declining?

9 A. That I haven't studied. I haven't
10 studied that, but it's a reasonable
11 inference.

12 Q. And do you have any basis to
13 dispute that producers lost more than
14 \$2 billion in this time period?

15 A. No, but it -- again, it's
16 something that I controlled for explicitly in
17 my model with an H1N1 dummy variable.

18 Q. In an environment in which hog
19 producers are collectively losing \$2 billion,
20 you as an economist would expect production
21 to decrease, right?

22 MR. RISSMAN: Object to form.
23 Incomplete hypothetical.

24 A. I don't know if they would be able
25 to turn down the production that quickly, but

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1 would move together.

2 And I think that in 2009, it
3 appears in this bullet that costs and prices
4 may have diverged. In which case, I'm glad
5 that I controlled for some special
6 circumstance in 2009 with the H1N1 variable.

7 Q. And you -- I think I took from
8 your previous answer that you don't dispute
9 that you would expect hog production to
10 decrease in an environment in which hog
11 producers were collectively losing
12 \$2 billion; is that right?

13 MR. RISSMAN: Object to form and
14 incomplete hypothetical.

15 A. I think that if there were a
16 permanent reduction in profitability
17 upstream, that could be associated with a
18 decline in upstream production. I will grant
19 you that.

20 If the H1N1 catastrophe was
21 short-lived, then it's possible that
22 production wasn't able to react in sufficient
23 time.

24 BY MR. COLEMAN:

25 Q. If we flip to Page 81 of the

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1 it's a reasonable inference that production
2 could have decreased upstream.

3 Q. There could be some --
4 (Reporter clarification.)

5 MR. RISSMAN: Sorry. Did the
6 witness finish his answer?

7 THE WITNESS: No, I can wait.
8 It's fine.

9 BY MR. COLEMAN:

10 Q. I didn't mean to interrupt. I
11 thought you were done.

12 So if you have something to add,
13 go ahead.

14 A. No. Just that this is why it was
15 important to include a new dummy variable for
16 the existence of the H1N1 virus.

17 Q. What you didn't control for was
18 the profitability of -- for producers of
19 raising hogs, right?

20 A. I would say that I didn't control
21 for that explicitly, but I do have the cost
22 of the producers as a control variable, and I
23 think in normal circumstances, outside of an
24 H1N1 virus that scared people off of pork
25 temporarily, I think that costs and prices

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1 document; go to the top of page. We have a
2 nice picture of Dr. Meyer.

3 It says: For America's pork
4 producers, 2008 and 2009 were among the most
5 difficult years ever. In fact, the combined
6 losses incurred by producers in 2008 and 2009
7 exceeded the previously worst two-year period
8 on record, 1998 and 1999.

9 By the end of 2009, US pork
10 producers have lost money in 24 of the last
11 26 months amounting to nearly \$6 billion.

12 Do you see that?

13 A. Yes.

14 Q. And you don't dispute the facts
15 that American pork producers lost \$6 billion
16 over that two-year time frame, right?

17 A. I don't have anything to dispute
18 it with here, but if you want, I can just
19 accept that as being the best estimate.

20 Q. And, again, my question is, in
21 that kind of environment where pork producers
22 have lost money to the tune of \$6 billion
23 collectively, it wouldn't be unreasonable to
24 see reductions in sow herd, reductions on
25 number of hogs on farms and a reduction in

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1 the supply of hogs generally?

2 MR. RISSMAN: Object to form and
3 incomplete hypothetical.

4 A. It's certainly possible that that
5 happened, but that's precisely what would be
6 controlled for by my dummy variable for H1N1.
7 That's to say if there was a unique set of
8 circumstances that upset the relevant market,
9 the pork processing market, you would want to
10 control for that, and I did.

11 BY MR. COLEMAN:

12 Q. And, again, this brings us to the
13 but-for world. So absent the challenged
14 conduct, the existence of an alleged
15 conspiracy, how much would the sow herd have
16 been reduced in this environment where US
17 pork producers lost \$6 billion over a
18 two-year period?

19 MR. RISSMAN: Objection. Asked
20 and answered.

21 A. To the extent that H1N1 virus
22 upset supply, then an economist would want to
23 control for that in a regression model, and
24 that's precisely what I've done; that is, you
25 cannot allege that my model is misattributing

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1 the price inflation that we are seeing during
2 the conduct to the H1N1. I am already
3 controlling for it.

4 BY MR. COLEMAN:

5 Q. That wasn't my question.

6 My question was, in the but-for
7 world, how much would producers have
8 decreased the sow herd given the financial
9 losses that they were incurring in this time
10 period?

11 MR. RISSMAN: Objection. And
12 I'm going to instruct the witness that
13 if he has an opinion on that he can
14 give it, but if he doesn't -- hasn't
15 performed that analysis, he shouldn't
16 give an opinion.

17 A. I haven't performed a
18 decomposition of the output effect attributed
19 to the challenged conduct and to nothing
20 else.

21 BY MR. COLEMAN:

22 Q. And the same answer is true with
23 respect to number of farrowings or number of
24 hogs being raised on farms, right?

25 MR. RISSMAN: Same objection and

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1 instruction.

2 A. I perform an output effect that
3 turns from a challenged conduct -- on the
4 challenged conduct, and I have not decomposed
5 it across the various ways in which output
6 was suppressed.

7 MR. COLEMAN: I think we have
8 gone 10, 15 minutes. Why don't we
9 pause there.

10 MR. RISSMAN: Okay.

11 THE VIDEOGRAPHER: Time is
12 12:54 p.m. We are going off the
13 record.

14 (A lunch recess was held from
15 12:54 p.m. to 1:41 p.m.)

16 THE VIDEOGRAPHER: The time is
17 1:41 p.m. We are back on the record.

18 BY MR. COLEMAN:

19 Q. Dr. Singer, did you discuss the
20 substance of your testimony with counsel
21 during the lunch break or any other break?

22 A. Now I'm trying to remember what we
23 discussed. I think we discussed where I was
24 going to eat, but I think that nothing of
25 substance, no. Like, how are you doing? Do

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1 you feel all right? And stuff like that.

2 Q. Before lunch, we were in the Pork
3 Checkoff document, Exhibit 6.

4 A. Okay.

5 Q. And we are on Page 81 of the
6 document.

7 MR. COLEMAN: And, Jacob, if you
8 could just get the profit and losses
9 table on the screen.

10 BY MR. COLEMAN:

11 Q. Dr. Singer, do you understand that
12 the profit and losses table here, the Iowa
13 farrow-to-finish hog operations, is a
14 graphical depiction of their relative
15 profitability of hog farms?

16 A. That's what it reports to show,
17 yes.

18 Q. And if we look at the period of
19 2009 to 2010, that appears to be -- those
20 appear to be years in which there were a
21 significant -- a period of significant
22 unprofitability for those hog operations,
23 right?

24 A. Well, it goes back up. So there's
25 oscillation just over time. There's periods

<p style="text-align: right;">Page 165</p> <p>1 of large profits and they go through bad 2 periods and they go through large profits 3 again. It seems like that pattern repeats 4 itself over time. 5 Q. Yeah. And I think that's a fair 6 point. 7 Are you familiar with the concept 8 of the hog cycle? 9 A. I have come across it. I don't 10 know if I can give you a definition realtime. 11 Q. And are you familiar with the 12 concept as reflected in the chart we are 13 looking at, that there's a longstanding cycle 14 in which we have oscillations from 15 unprofitability to profitability for hog 16 operations? 17 A. Yes. 18 Q. Are you familiar with that? 19 A. Yes. 20 Q. And are you familiar with the 21 reality in periods of profitability, hog 22 farmers tend to expand production, and in 23 periods of unprofitability, they tend to 24 contract? 25 MR. RISSMAN: Object to form.</p>	<p style="text-align: right;">Page 167</p> <p>1 to be correlated. And then when I look back 2 prior to that, when our conduct variable is 3 equal to zero, it's also not going to be 4 correlated. 5 There is periods where it's 6 profitable, and it goes unprofitable, as you 7 say. So I don't think that this is going to 8 explain away the effect that we are capturing 9 in the conduct period. 10 Q. I didn't ask that question. I 11 didn't offer a theory. I just asked whether 12 you're familiar with the fact that over a 13 period of decades, there is something called 14 a hog cycle in which there are periods of 15 unprofitability and hog farmers expand and 16 periods -- I am sorry, periods of 17 unprofitability in which they can track and 18 periods of profitability in which hog farmers 19 tend to expand. 20 Are you familiar with that or not? 21 MR. RISSMAN: Object to form. 22 A. Not the -- 23 MR. RISSMAN: Hold on. Hold on. 24 Object to form. Incomplete 25 hypothetical.</p>
<p style="text-align: right;">Page 166</p> <p>1 Overbroad and incomplete hypothetical. 2 A. I'm not necessarily familiar with 3 the expansion and contraction, but I will 4 leave it at that. 5 BY MR. COLEMAN: 6 Q. Is that something you studied or 7 accounted for? 8 A. Well, I certainly accounted for 9 what was going on in the upstream market in 10 two ways in my progression model. And what 11 these profitability figures are showing me, 12 big losses in '09 and big gains in '10, that 13 seems to suggest that profitability is not 14 going to be correlated with the challenged 15 conduct, right. 16 So I think the theory -- the 17 alternative theory that you're offering is 18 that I omitted some -- some variable 19 profitability that would explain the price 20 increases that we observed during the class 21 period and just from what -- what I've seen, 22 you haven't shown me the full time series. 23 But the fact that you've got 24 losses in '09 and big gains in '10, tells me, 25 at least for those two years, it's not going</p>	<p style="text-align: right;">Page 168</p> <p>1 A. Not the expansion and contraction 2 part, but I do have some familiarity with the 3 idea that profitability goes in waves. So I 4 will give you that part of it. 5 I don't see evidence right here 6 that production upstream could be explained 7 with variations in profitability. It's 8 possible. But you haven't established that 9 through this exhibit. 10 BY MR. COLEMAN: 11 Q. Sure. Would that surprise you if 12 producers respond to the relative 13 profitability of their operation by expanding 14 or contracting? 15 MR. RISSMAN: Object to form. 16 A. I think -- I think they might try 17 to do that, but, you know, I would want to 18 see evidence that those things are 19 correlated, but even if they were, I don't 20 think I'm missing anything in my regression 21 level. 22 Q. If we turn to Page 93. Yeah, 23 right up there. US Breeding Herd, Quarterly. 24 Have you examined the general -- 25 what's happened to the quantity of sows in</p>

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1 the breeding herd in the United States over
2 time?
3 A. No. I have not examined that.
4 I'm looking at the phenomenon in the relevant
5 market.
6 Q. Well, one of the allegations in
7 the complaint that you address is a reduction
8 in the sow breeding herd, right?
9 A. Among defendants, yes, that's an
10 allegation in the complaint. But I took your
11 question to mean have I been studying
12 upstream production at large across all
13 providers -- to independents over time, and I
14 have not done that.
15 Q. And one thing we see from looking
16 at that chart is that there's a longstanding
17 reduction going back to the mid-'90s in the
18 size of the US breeding herd, right?
19 A. Yes, I will grant you that the
20 blue line, which is not labeled here, but I
21 presume that's quarterly breeding herd --
22 they've labeled the orange line but not the
23 blue line.
24 You want to me the assume that the
25 blue line is quarterly breeding herd?

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1 Q. Let's look at the chart on the
2 right where it says, US breeding herd,
3 quarterly.
4 A. Okay.
5 Q. And that reflects that dating to
6 the mid-'90s, there's a significant reduction
7 over time in the size of the sow breeding
8 herd, right?
9 A. Yeah. And a trend that looks like
10 that would be captured in my time trend,
11 right. So -- so to the extent it continues
12 doing that, then I feel comfortable that my
13 model would have accommodated that trend.
14 Q. I'm surprised by that because, as
15 I understand it, your model measures a before
16 period of -- well, how many years before
17 2009?
18 A. I think the data goes back -- I
19 would have to check to see when the beginning
20 of the data runs. I would have to go check
21 in the regression section how far it goes
22 back. Several years.
23 Q. And what we see when looking at
24 the data, is that there was an uptick in the
25 breeding herd dating to 2004, 2005.

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1 If we look at that period through
2 about 2008, the breeding herd was expanding,
3 right?
4 A. Yeah. But still below its
5 long-term historical high. You're saying
6 there is a slight upturn in '04, '05, I will
7 grant you that. But you're still well below
8 where it was, you know, in the early '90s.
9 Q. So how does your model account for
10 the long-term reduction in the size of the
11 swine breeding herd?
12 A. Right. So if there's a trend like
13 this that is secular and occurring throughout
14 the data period, the period that we study,
15 then a linear time trend is going to capture
16 the effect of such trends.
17 Q. But your data period dates to
18 2005, not to the early '90s, right?
19 A. I would have to go back and check
20 when it goes. But the data period from
21 '05 -- what you're not showing me is what the
22 US breeding herd looks like past 2009. And
23 to the extent, I will say that, that the
24 trend is a linear trend -- linear downward,
25 that would be ticked up by the time trends.

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1 Q. And do you have any understanding
2 as to the reasons for a long-term reduction
3 in the US sow breeding herd?
4 A. I think that the White House
5 report might offer the notion that if
6 independent farmers are being squeezed by
7 packers with significant buying power, that
8 could result in a reduction in output.
9 Q. Any other reasons come to mind as
10 to why the sow herd would have been steadily
11 reducing over time?
12 MR. RISSMAN: Objection.
13 Foundation.
14 A. No. Sitting here, I don't know if
15 I can give you other reasons.
16 BY MR. COLEMAN:
17 Q. If producers are able to produce
18 fewer gains and efficiency, genetic feed or
19 whatever, more piglets per sow, then it would
20 be economically prudent to reduce the number
21 of sows while still expanding production,
22 right?
23 MR. RISSMAN: Object to form.
24 And calls for incomplete hypothetical.
25 A. Yeah. I don't think I could

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1 answer that. I think that's outside the
2 scope of economists. You'd want to ask
3 probably a farmer that.
4 BY MR. COLEMAN:
5 Q. Or an agricultural economist,
6 right?
7 A. No, these are the things that --
8 you wouldn't go to an economist for the
9 technical explanations of how breeding works.
10 You want to go to a technical expert.
11 Q. In any case, if we look at the
12 long-term trendline from the mid-'90s to the
13 end of the graph -- we'll say at the end of
14 2009, 2010, in that range, we would expect
15 some reduction if that trend continues in the
16 sow herd in subsequent years, right?
17 MR. RISSMAN: Objection.
18 Hypothetical.
19 A. It's possible that that trend
20 persisted. And as I said before, if it did,
21 that would be the kind of phenomena that
22 would be captured by the linear time frame.
23 BY MR. COLEMAN:
24 Q. To the extent you looked at data
25 covering that full time period, right?

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1 A. We know what data I looked at,
2 right. So you're asking if I assume that it
3 continued a downward trend from 2009 onward.
4 I think our data went through something like
5 2020. Then that linear trend would be
6 captured by the time trend.
7 Q. That's actually not what I'm
8 asking. You4 data does not predate 2005,
9 does it?
10 A. I think you might be right. I
11 need to go back and check the initial period
12 and how we define the preperiod. I think
13 you're right, but I just would want to go
14 into the regression section and see the exact
15 start date of the regression data.
16 If you want, I can go get that for
17 you.
18 Q. Well, yeah. I think you should do
19 that. I mean, as I understand it, your model
20 is built on a comparison of a before period,
21 comparing that to the conspiracy period. So,
22 again, surprised that you don't know what the
23 before period is.
24 A. No, no, no. I know what the
25 period is. I don't know the precise start

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1 date of the preperiod. So let's keep the
2 record straight.
3 But it looks like we have data
4 going back to January 1, 2005.
5 Q. Right. And so your data did not
6 account for that long-term trend dated in the
7 mid-'90s of the sow herd being reduced,
8 right?
9 A. Well, it's inappropriate and
10 uneconomic for you to say such a thing. The
11 data period does not cover that earlier
12 period, so to say it's not accounting for it
13 is just nonsensical.
14 I account for phenomena that moved
15 prices around over the period I studied.
16 Q. And the period you studied was
17 2005 going forward, right?
18 A. Correct.
19 Q. Fundamentally, your model controls
20 for certain variables that affect the supply
21 and demand for pork, right?
22 A. Correct. In the relevant
23 market -- in the relevant processing market,
24 correct.
25 Q. And you view that the hog market

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1 is not part of the relevant market?
2 A. Absolutely not. It's a related
3 market. It's the upstream market. It's a
4 separate market, and I do control for certain
5 phenomena that are occurring up there, but my
6 aim -- the objective of the model is to
7 isolate the effect of the challenged conduct
8 on prices that direct and indirect consumers
9 paid in this antitrust litigation.
10 Q. So you include variables that
11 control for hog costs, processing costs,
12 demand, trends over time, right?
13 A. You have just given an incomplete
14 list. We could go to all the variables that
15 I got. But what I'm trying to do is capture
16 the supply and demand phenomena in the
17 relevant processing market.
18 Q. So what I want to understand is
19 whether your model effectively means that any
20 other price increase is not correlated with
21 one of the control variables as defined by
22 you to be challenged conduct?
23 A. I didn't understand that. Let's
24 say it -- let's say it back. Sorry. I just
25 didn't follow what you're saying.

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1 Q. Yeah. Is the implication of your
2 model that any price increases that occurred
3 during the class period not correlated with
4 one of your control variables is defined by
5 you to be challenged conduct?
6 A. No. That's not how I put it.
7 Q. How would you put it?
8 A. I would say what the model is
9 trying to do is to isolate the inflation in
10 prices that can be attributed to the
11 challenged conduct by using a benchmark of a
12 clean preperiod controlling for all other
13 factors that could have influenced prices
14 over the data window.
15 Q. Are you familiar with the concept
16 of packer margins?
17 A. Well, I know what a packer margin
18 is. If you're asking what margin the packers
19 were earning...
20 Q. What is a packer margin?
21 A. Well, as I'm hearing you describe
22 it, margin has a very precise meaning in
23 economics, which is the difference between
24 the price and the cost, and you're asking for
25 packer. So that would be the margin for

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1 packers.
2 Q. Okay. Are you familiar with
3 industry term -- industry usage of the term
4 "packer margins"?
5 MR. RISSMAN: Object to form.
6 A. Packer margins, you mean?
7 BY MR. COLEMAN:
8 Q. Yes.
9 A. It's possible I've come across
10 that term. And I have given you what my
11 understanding is as you have just described
12 it.
13 Q. So if we are just relying on your
14 definition of packer margins, if they're
15 negative, it's economically reasonable for a
16 processor to cut back its production, right?
17 MR. RISSMAN: Object to form.
18 Incomplete hypothetical.
19 A. And I would say not necessarily.
20 BY MR. COLEMAN:
21 Q. If a packer can purchase primals,
22 so we add up all the -- you understand what
23 primals are?
24 A. Yes.
25 Q. And if we add up -- a carcass

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1 yields a certain set of primals, the belly,
2 the shoulders, butts, et cetera, right?
3 A. I haven't heard a question yet,
4 but --
5 (Simultaneous unreportable
6 crosstalk.)
7 Q. I just want to make sure you
8 follow me.
9 When a packer slaughters a hog, it
10 cuts it up into primals. That carcass
11 yields, well, really, two of every primal,
12 right?
13 A. A what of every primal? I am
14 sorry.
15 BY MR. COLEMAN:
16 Q. Two. You get two bellies, two
17 ribs, two shoulders, two butts, right?
18 A. Okay. I will accept that's the
19 number you get when you cut it up. I don't
20 know if I've come across that yet, but go
21 ahead.
22 Q. You don't know what a hog carcass
23 produces?
24 A. I mean, I've got pictures
25 depicting what the hog carcass produces, but

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1 I haven't stated it as two of each, but we
2 are symmetric animals, so that follows.
3 Q. Right. You get one snout and one
4 tail, but other than that, when it comes to
5 primals, there's two of the primals on each
6 hog that's slaughtered, right?
7 A. Okay.
8 Q. Not something that's occurred to
9 you before, I gather?
10 A. We haven't been -- I haven't --
11 there's nowhere in my report that I discuss
12 two of each. I just talk about units, but go
13 ahead.
14 Q. If a -- and you understand that
15 there's a market -- there's the buying and
16 selling of primals that's distinct from a
17 market for hogs that -- for market hogs that
18 still need to be slaughtered, right?
19 A. I don't understand the question.
20 Q. Do you know, for example, whether
21 my client Hormel, in addition to harvesting
22 hogs, also purchases primals?
23 A. So are you asking, again, that --
24 the fact that some processors are both -- are
25 vertically integrated in the sense that

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1 they're making the hogs themselves upstream
2 and also buying them?

3 Q. No. I'm asking whether you -- I
4 mean, you're aware that Hormel, for example,
5 buys hogs to slaughter and run through its
6 plant, right?

7 A. Yes.

8 Q. Are you aware that it also goes
9 out and buys primals that have already been
10 slaughtered and cut up into primals by other
11 packers?

12 A. They might do that, but that's not
13 something I studied. I'm looking at the
14 defendant sales data when they're the
15 processor.

16 Q. And my question, again, was
17 whether you're aware of there being a market
18 for hogs ready to slaughter that's distinct
19 from a market for primals?

20 A. No, I don't make that distinction
21 in my report. That's not how I define the
22 relevant market.

23 Q. If a packer like Hormel is in the
24 position of being able to buy primals for
25 cheaper than the price of a market hog, it

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1 months prior.

2 Is that what you're asking about?

3 Q. Yeah. Right. Yeah. And that's a
4 good clarification. And we should start
5 there.

6 So, I mean, I think you recognize
7 that PDV [sic] was a significant industry
8 event, and you made efforts to account for
9 it, right?

10 A. Correct, through the -- through
11 the pig loss ratio rate, and we also -- the
12 piglet loss rate, and we also provide in the
13 bottom of 119 as to why we lagged it. It's
14 roughly the time it takes for a pig to reach
15 slaughter maturity.

16 Q. Yeah. I am sorry. Was it
17 Paragraph 119?

18 A. Page 119, at the bottom.

19 Q. Yeah. And why did you focus on
20 piglet loss as the right metric?

21 A. Well, we thought piglet loss could
22 have an important power in explaining prices
23 in the -- in the processing market. So we
24 wanted to control for it, and we also thought
25 the PVD virus manifested its way through the

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1 would make sense for Hormel or any other
2 processor in that position to do that, right?

3 MR. RISSMAN: Object to form.
4 Incomplete hypothetical.

5 A. Yeah. I don't have an opinion
6 there. It's not something I studied.

7 BY MR. COLEMAN:

8 Q. What's a lag variable?

9 A. A lag variable is that if you want
10 to allow for the possibility that the effect
11 of a variable doesn't occur in the instant
12 period but instead occurs in some future
13 period, you would use a lag effect.

14 Q. And why did you apply a lag
15 variable to PVD?

16 A. Because we think that that best
17 explains the data. That we don't see the
18 effect of the PVD until -- until a later
19 period. I would have to go back and see if
20 I've given a basis here.

21 Strike that. We -- we are
22 using -- for that virus, we are using the
23 pork -- the pig mortality rate. We don't
24 have a separate variable for that -- for that
25 virus. We just have pig loss rate of six

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1 piglet loss rate, so that would be a fine way
2 to put -- to account for it.

3 Q. You aware of any other impacts of
4 PVD other than the piglet loss rate?

5 A. No, I'm not.

6 Q. And then coming back to the lag
7 variable, so we've got -- if you're
8 accounting for -- you're controlling for PVD,
9 you're focusing on piglet loss, explain why
10 it would be important to apply a lag variable
11 to piglet -- piglet loss numbers.

12 A. Oh, so as I say, you wouldn't
13 expect to see any price effect for six months
14 because that's the time it takes for a pig to
15 reach slaughter maturity. So if you went
16 looking a price effect as soon as the piglet
17 loss rate changed, you might not see it.

18 And my understanding is that we
19 tried it, you know, both in contemporaneous
20 and in lag terms, and the lag term did a
21 better job explaining variational data.

22 Q. So you thought based on your
23 analysis, that was the appropriate way to
24 account for PDV, was to lag that -- the fact
25 of piglet mortality?

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1 A. Well, I wouldn't quite put it that
2 way. I would say that the piglet loss rate
3 is accounting for more than just the PVD
4 virus, but it also accounts for the PVD
5 virus. So we didn't think a separate new
6 dummy variable was needed.

7 Q. Yeah. And I'm interested
8 specifically in the decision to lag the
9 impact. That's routed in the biology of the
10 pigs?

11 A. Not only the biology of the pig
12 but also in explanatory power of the data.
13 So you could go back and you can remove the
14 lag and just use the contemporaneous pig loss
15 rate, right, and see which one does a better
16 job explaining variation prices.

17 Q. Got it. So in your mind, the --
18 applying the lag variable is the better way
19 to explain the impact of PVD?

20 A. No. That's not what I'm saying.
21 I'm saying the lag variable is the better way
22 to explain the piglet loss rate. And I'm
23 capturing the PVD virus through the piglet
24 loss rate variable.

25 You keep saying it as if the PVD

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1 virus was the only thing that I had in mind
2 when using and constructing this series.
3 It's not.

4 Q. What else did you have in mind?
5 And I'm honestly not trying to put
6 words in your mouth or make any assumptions.
7 I just want you to explain what you're doing
8 and why you picked the lag variable.

9 So what other -- what else were
10 you trying to account for other than PDV?

11 A. Oh, anything that changes the
12 piglet loss rate, right. So anything that
13 changes it could, in theory, have an effect
14 on prices in the relevant market. I wanted
15 to control for that.

16 Q. Okay. So -- but if you want to
17 understand the impact of piglet loss on
18 market prices, then it would be important to
19 lag the effect based on the biology of the
20 pig?

21 A. I think that's one basis, but a
22 second basis is whether or not it does a
23 better job explaining variation in the
24 pricing data in the relevant market than the
25 unlagged, and so I want to look at both of

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1 those bases.

2 Q. And that's -- that's what --
3 that's what you found here, was that it had
4 better explanatory power if you lagged the
5 impact?

6 A. That's my understanding, yes.

7 Q. Coming back for the -- the concept
8 of there being a marketplace for primals, and
9 ultimately -- is that, in your mind, an
10 upstream market, or is that part of the same
11 market?

12 A. Well, I'm looking at defendants'
13 sales data, where they served as the
14 processor, and I think what you're asking is
15 what happens when some other party serves as
16 the processor. And sitting here, it sounds
17 like that would not be captured in our
18 database.

19 It's conceivable it is, but I
20 would want to run that down. It is something
21 that -- it sounds like from your description
22 if they're not -- if they're not processing
23 it, I'd just query whether or not that's
24 going to be contained in our data.

25 Q. So you recognize that a

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1 defendant's decision to export pork products
2 is not in itself evidence of a conspiracy,
3 right?

4 A. I think that -- if that's all you
5 had, and the decision was unilaterally made,
6 you know, that would not constitute the basis
7 of an antitrust theory of harm.

8 Q. Yeah. In fact, a decision to
9 export products can be perfectly rational and
10 consistent with a competitive environment,
11 right?

12 A. Well, divorced from all the facts
13 of the case and in a vacuum, it could. But
14 if we look at record evidence, including the
15 evidence I mentioned earlier about, I think,
16 direct communications between CEOs on the
17 question of exporting and whether or not it
18 would be beneficial to the industry, you
19 know, everything is in context.

20 Q. Was that important to your
21 analysis, that you believe there's been
22 direct communications between defendant CEOs
23 on exports?

24 A. Well, it's important enough to
25 make it into my export section. And it's

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1 important in the sense that it substantiates
2 part of the challenged conduct. I will leave
3 it at that.
4 Q. But coming back to whether it may
5 be rational to export pork, it's not your
6 opinion that all exports of pork in the class
7 period were challenged conduct and unlawful,
8 right?

9 MR. RISSMAN: Object to form.

10 A. Well, remember, I -- I don't
11 consider exporting in the abstract to be a
12 restraint that is being challenged here. I
13 think that exporting, as I said many times
14 now, is one of several levers or mechanisms
15 by which domestic output was reduced.

16 But I think that there's record
17 evidence that's consistent with plaintiff's
18 claims that the decision to export was made
19 on a coordinated basis. And just, you know,
20 sitting here, I could go through my report --
21 I can spare you the pain, but we talk about
22 communications between CEOs regarding
23 exporting activity and also, you know, the
24 Agri Stat export report itself was allowing
25 the defendants to coordinate in their

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1 decisions of how much to export.

2 They can monitor each other's
3 decision making with respect to exporting,
4 see how much of the production was being
5 shipped abroad.

6 BY MR. COLEMAN:

7 Q. So if in some instances -- so if
8 one of the defendants was able to obtain a
9 higher price for a particular product by
10 exporting it, that's perfectly lawful, right?

11 MR. RISSMAN: Object to form.

12 Calls for a legal conclusion.

13 A. I think I would have to know more
14 about the hypothetical, but I think I cite
15 the opposite in my report, which are
16 instances where exporting was occurring at a
17 lower price, but they were doing it for the
18 good of the -- you know, the alleged
19 conspiracy by suppressing prices in the
20 domestic market.

21 BY MR. COLEMAN:

22 Q. What was notable about that, in
23 your mind, was the fact that, at least your
24 understanding, that there may have been
25 exports at a loss, I guess. Is that right?

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1 A. Either at loss or just not as
2 profitable as selling in the US.

3 Q. And on the other hand, if the
4 exports are more profitable than domestic
5 sales, it would not be fair to treat that as
6 challenged conduct, right?

7 MR. RISSMAN: Object to form.

8 Calls for a legal conclusion.

9 A. Again, I'm not treating the
10 exporting as a restraint that is going to be
11 eliminated when I move to the but-for world.
12 It's one mechanism by which the defendants
13 allegedly reduced domestic supply.

14 BY MR. COLEMAN:

15 Q. Yeah. And so one thing you did
16 was you looked at qualitative evidence, and
17 you mentioned that there might have been
18 conversations among defendant CEOs about
19 exports as an example of that kind of
20 qualitative evidence, showing that there was
21 coordination on exports, right?

22 A. As well as the Agri Stats export
23 report itself, yes.

24 Q. Right. So I want to get your
25 understanding of qualitatively, how we assess

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1 any given export to determine whether it was
2 economically rational and reasonable or --
3 or -- on the one hand or part of the
4 conspiracy on the other hand?

5 A. Yeah. I would say that's a bit of
6 a fool's error. That certainly was not a
7 part of my scope or my study. I'm trying to
8 figure out the pricing model, what portion of
9 the price increase the defendants took that
10 could be attributed to the challenged
11 conduct.

12 And I have an associated output
13 model. But I'm not trying to simulate what
14 exports would have been in the absence of a
15 challenged conduct. I have not done such an
16 analysis. And frankly, at this moment in
17 time, I'm not planning on doing such an
18 analysis on the merits.

19 Q. So in your mind, it's not
20 important to determine whether any of the
21 defendants' exports in this time period
22 were -- in their economic interest, whether
23 or not there was a conspiracy?

24 A. I'm not -- I'm not trying to
25 predict exports in the but-for world, and so

<p style="text-align: right;">Page 193</p> <p>1 I'm trying to predict domestic output in the 2 but-for world. I don't know if there was a 3 model. There was certainly not anything that 4 I offered that would allow one to project 5 what exports would have looked like in a 6 but-for world. 7 Q. Can you point to any particular 8 export by any defendant that you think was 9 the product of collusion? 10 MR. RISSMAN: Object to form. 11 A. I mean, I don't do that and, you 12 know, what I do instead is I review record 13 evidence that's consistent with the criteria 14 that economists have identified as being -- 15 as being supportive or indicative of 16 anticompetitive conduct. 17 And so I told you, I looked at 18 CEOs communicating with each other directly 19 over export decision. The Agri Stats export 20 report itself provided information that would 21 allow monitoring among the defendants to -- 22 to increase -- artificially increase 23 exporting. But I never endeavored to 24 estimate for any given export of pork whether 25 that export, you know, was -- would or would</p>	<p style="text-align: right;">Page 195</p> <p>1 BY MR. COLEMAN: 2 Q. And in Paragraph 219, you talk 3 about Smithfield predicting internally that 4 exports expected to be larger than the prior 5 year. Domestic -- decrease in domestic 6 availability should help keep pork prices 7 above prior year -- prior year through the 8 remainder of 2016. 9 Sorry for stumbling. But that's 10 what it says, right -- 11 A. Yes. 12 Q. -- the quoted portion of the 13 Smithfield document. 14 And that does not refer to 15 defendant-to-defendant communication about 16 exports, right? 17 A. I think defendant to defendant 18 might be 217. You're taking me to 219. 19 Q. I'm sorry. 219. Yeah. Page 167. 20 A. But so that paragraph in 219 -- 21 let's see. You just want me to look at that 22 one line about Smithfield? 23 Q. Review the paragraph, and I think 24 at the end -- I don't know which excerpts in 25 your mind reflect defendant-to-defendant</p>
<p style="text-align: right;">Page 194</p> <p>1 not have occurred in the but-for world. I 2 don't do that. 3 BY MR. COLEMAN: 4 Q. Did you identify any particular 5 transaction by any defendant in which it 6 exported products at a price less than it 7 could obtain in the domestic market? 8 A. I'm remembering one document -- I 9 think I mentioned this before -- where it 10 appeared that either it was at a loss or less 11 profitable, but yet it was still good for the 12 alleged cartel or the alleged conspiracy for 13 them to go forward with it anyway. 14 Q. We may look at that. Is that a 15 Smithfield document? Do you think you know? 16 A. It sounds right, but I can't 17 remember which -- which exact document it was 18 sitting here. 19 Q. Can you turn to Page 167 of your 20 report. 21 A. Sure. 22 MR. COLEMAN: Jacob, if you 23 could pull up Exhibit 1, if it's 24 helpful, Page 167. 25 THE WITNESS: Okay.</p>	<p style="text-align: right;">Page 196</p> <p>1 communications about exports. 2 A. Let's -- 3 (Simultaneous unreportable 4 crosstalk.) 5 A. Let's go to the bottom of 219. 6 Sorry. This is a Seaboard CEO using his 7 personal e-mail to tell Doug Clemens of 8 Clemens that he was, quote, glad to see you 9 were working on some higher value export 10 opportunities in Japan, Korea because that 11 will help take some of the pressure off of 12 domestic sales, end quote. 13 Q. Yeah. Is that what had in mind 14 when you were thinking about CEO-to-CEO 15 communications between defendants? 16 A. Yes. 17 Q. Are you aware of any others? 18 A. Sitting here, I don't think I'm 19 aware of any others, no. 20 Q. Do you know whether in 2018, 21 Mr. Brenneman was the CEO of Seaboard? 22 A. I mean, that's what the language 23 says there. 24 Q. That's what you wrote? 25 A. Yes, that's what I wrote.</p>

<p style="text-align: right;">Page 197</p> <p>1 Q. You would agree that it's</p> <p>2 important to take care that actions</p> <p>3 consistent with rational self-interest are</p> <p>4 not treated as evidence of an antitrust</p> <p>5 conspiracy, right?</p> <p>6 A. I think that's fair, yes.</p> <p>7 Q. And a good test for exports in</p> <p>8 particular and whether an export raises</p> <p>9 antitrust suspicions is whether the exports</p> <p>10 are sold at prices in foreign markets below</p> <p>11 what could have been achieved in the domestic</p> <p>12 market, right?</p> <p>13 A. It's an indicator. I don't know</p> <p>14 if it's a good test. I mean, if you get</p> <p>15 communication between two CEOs coordinating</p> <p>16 their export decision, at that point, I don't</p> <p>17 need to know if the price is above or</p> <p>18 below --</p> <p>19 (Reporter clarification.)</p> <p>20 A. -- some requisite level to</p> <p>21 determine whether or not that's potentially</p> <p>22 anticompetitive.</p> <p>23 Q. At that point, the fact of the CEO</p> <p>24 correspondence sort of overrides whatever the</p> <p>25 economics is in your mind?</p>	<p style="text-align: right;">Page 199</p> <p>1 about exports like four or five times in this</p> <p>2 deposition. Is that fair?</p> <p>3 MR. RISSMAN: Object to form.</p> <p>4 You're asking questions, not just</p> <p>5 referencing things.</p> <p>6 MR. COLEMAN: Yeah.</p> <p>7 A. Yes. I remember saying it, and</p> <p>8 then you suggesting that I was making it up</p> <p>9 and I was saying no, no, no, I remember it.</p> <p>10 You said, no, we'll see about that.</p> <p>11 And so it's been kind of a bone of</p> <p>12 contention today as whether or not this thing</p> <p>13 exists. So, yes, we have mentioned it a lot,</p> <p>14 and I was right.</p> <p>15 BY MR. COLEMAN:</p> <p>16 Q. You were right that you wrote that</p> <p>17 allegation in your report, right?</p> <p>18 A. I was right that that record</p> <p>19 evidence, consistent with collusion, was in</p> <p>20 my report. You disputed that it was in my</p> <p>21 report, and I couldn't remember the paragraph</p> <p>22 when the report was closed, but now having</p> <p>23 you taking me to Paragraph 219, it refreshes</p> <p>24 my recollection.</p> <p>25 Q. And that's what you're relying on</p>
<p style="text-align: right;">Page 198</p> <p>1 A. No, not overrides the economics.</p> <p>2 It is direct communication of a strategy that</p> <p>3 is designed here, obviously, to support</p> <p>4 higher domestic prices. It is consistent</p> <p>5 with a cartel-like behavior, period, end of</p> <p>6 story.</p> <p>7 It is economic -- it's an economic</p> <p>8 analysis. It derives from an economic</p> <p>9 criteria designed by economists to identify</p> <p>10 conspiracies. So I just -- the way that you</p> <p>11 phrase the question was just wrong.</p> <p>12 Q. That's fair. It sounds to me like</p> <p>13 you view the correspondence between CEOs that</p> <p>14 we discussed in 2019 as being important to</p> <p>15 informing your analysis, right?</p> <p>16 A. I mean, it's important, but I</p> <p>17 think that everything that I cite is</p> <p>18 important. I don't want to give it any more</p> <p>19 weight than any other documents that are</p> <p>20 cited here. Just it's an important document</p> <p>21 in the case that is supportive of the</p> <p>22 allegations in the complaint for the</p> <p>23 existence of a conspiracy.</p> <p>24 Q. I heard you reference a</p> <p>25 conversation between CEOs of the defendant</p>	<p style="text-align: right;">Page 200</p> <p>1 as evidence of collusion between CEOs of</p> <p>2 defendants?</p> <p>3 A. You know what --</p> <p>4 MR. RISSMAN: Object to form.</p> <p>5 Mischaracterizes his testimony.</p> <p>6 A. You know what section this is</p> <p>7 coming in. It's coming in as the end of how</p> <p>8 you can do a mapping of the evidence that I</p> <p>9 reviewed so far of the plus factors, and -- I</p> <p>10 will leave it at that.</p> <p>11 BY MR. COLEMAN:</p> <p>12 Q. Coming back to this idea again,</p> <p>13 you don't -- you're not opining that all</p> <p>14 exports that occurred during the class period</p> <p>15 were the product of the alleged conspiracy,</p> <p>16 right?</p> <p>17 MR. RISSMAN: Objection. Asked</p> <p>18 and answered again.</p> <p>19 A. I don't know how I could better --</p> <p>20 better say it. But it's not my opinion that</p> <p>21 exports would be zero in the but-for world.</p> <p>22 There's some amount of exports that would</p> <p>23 continue to occur in the but-for world for</p> <p>24 sure.</p> <p>25</p>

<p style="text-align: right;">Page 201</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. And I'm interested in whether a</p> <p>3 reasonable approach to distinguishing between</p> <p>4 roughly lawful valid exports on the one hand</p> <p>5 and exports that are part of the conspiracy</p> <p>6 on the other hand is whether the exports were</p> <p>7 sold at prices in foreign markets below what</p> <p>8 could have been achieved in the domestic</p> <p>9 market.</p> <p>10 MR. RISSMAN: Objection. Asked</p> <p>11 and answered.</p> <p>12 BY MR. COLEMAN:</p> <p>13 Q. Is there a reasonable way to</p> <p>14 distinguish lawful from unlawful exports?</p> <p>15 MR. RISSMAN: Objection. Asked</p> <p>16 and answered, and calls for a legal</p> <p>17 conclusion.</p> <p>18 A. In the absence of direct evidence,</p> <p>19 the two CEOs were coordinating in their</p> <p>20 export decisions and one could look at the</p> <p>21 price and whether or not the firm -- or the</p> <p>22 defendant incurred a loss. That would be --</p> <p>23 if they did that could be indicative of</p> <p>24 anticompetitive conduct.</p> <p>25 But I'm going to say, again, if</p>	<p style="text-align: right;">Page 203</p> <p>1 thousand times now -- that exports likely</p> <p>2 increased in the actual world relative to the</p> <p>3 but-for world because of the challenged</p> <p>4 conduct to the extent it was part of the</p> <p>5 scheme. But I don't think there's any chance</p> <p>6 that I've failed to account properly for</p> <p>7 exports when measuring the effect of the</p> <p>8 challenged conduct and the single alleged</p> <p>9 conspiracy to suppress output and raise</p> <p>10 prices when we are looking at that on</p> <p>11 domestic prices.</p> <p>12 Q. Do you agree that if a model</p> <p>13 purports to show evidence of an antitrust</p> <p>14 conspiracy, it should be sure to exclude or</p> <p>15 control for economically rational decisions</p> <p>16 that are in a firm's interests?</p> <p>17 A. Again, I'm not --</p> <p>18 MR. RISSMAN: Object to form.</p> <p>19 A. I'm not sure which model you're</p> <p>20 referring to. Are you referring to my</p> <p>21 regression model?</p> <p>22 BY MR. COLEMAN:</p> <p>23 Q. Just in general. If you're going</p> <p>24 to offer antitrust -- you know, an</p> <p>25 econometric model or an economic model in an</p>
<p style="text-align: right;">Page 202</p> <p>1 you have direct evidence of communication, if</p> <p>2 you have a sort of evidence that we see from</p> <p>3 Agri Stats where firms are able to monitor</p> <p>4 each other's exports, right, then we don't</p> <p>5 necessarily have to go and see if, in fact,</p> <p>6 there was a profit sacrifice taken.</p> <p>7 I think the profit sacrifice is</p> <p>8 helpful, and it certainly is indicative when</p> <p>9 it happens, but it's not a necessary</p> <p>10 condition.</p> <p>11 BY MR. COLEMAN:</p> <p>12 Q. Do you have any concerns that your</p> <p>13 model could have -- could be treating</p> <p>14 economically rational exports as challenged</p> <p>15 conduct?</p> <p>16 A. No. I have no concerns -- are you</p> <p>17 referring to my econometric model of prices?</p> <p>18 Q. Yes.</p> <p>19 A. Well, as you know, I'm only</p> <p>20 looking domestic supply in my dependent</p> <p>21 variable, and so I don't think there's any</p> <p>22 way that I could be misattributing the</p> <p>23 effects of the challenged conduct to</p> <p>24 something else including levels of export.</p> <p>25 I feel like that -- I said this a</p>	<p style="text-align: right;">Page 204</p> <p>1 antitrust case purporting to quantify</p> <p>2 anticompetitive activity or the economic</p> <p>3 impact of economic activity, is it important</p> <p>4 that the model exclude or control for</p> <p>5 economically rational decisions that are in</p> <p>6 the firm's interest?</p> <p>7 MR. RISSMAN: Object to form.</p> <p>8 A. Well, if we're talking about the</p> <p>9 regression model, what's important to control</p> <p>10 for are all of the phenomenon that could be</p> <p>11 affecting pricing during the study period so</p> <p>12 that you don't inadvertently attribute the</p> <p>13 price effects that we're seeing to the</p> <p>14 challenged conduct when, in fact, it's</p> <p>15 something else including procompetitive</p> <p>16 reasons.</p> <p>17 And I feel like I've done that.</p> <p>18 Nothing that you have said today caused my to</p> <p>19 want to go back and add an additional control</p> <p>20 variable.</p> <p>21 With respect to the qualitative</p> <p>22 factors, you know, I'm following the criteria</p> <p>23 that have been identified in the economic</p> <p>24 literature by Suslow, and, you know, things</p> <p>25 like inducements to collude and monitoring,</p>

<p style="text-align: right;">Page 205</p> <p>1 and so I'm kind of going through and looking 2 at the record evidence in light of that 3 three-pronged criteria, and I feel like the 4 evidence is consistent with the existence of 5 a conspiracy. 6 And I think it's the combination 7 of the two. It's the fact that the 8 qualitative criteria satisfied and in 9 conjunction with the econometric model, it 10 gives me confidence that what I'm looking at 11 has the look and feel of a cartel -- 12 anticompetitive cartel. 13 BY MR. COLEMAN: 14 Q. If we go back to Tab 45, the Pork 15 Checkoff -- I got that as Exhibit 6 -- and go 16 to page -- let's go to Page 42. 17 A. Okay. 18 THE VIDEOGRAPHER: Did you say 19 42? 20 MR. COLEMAN: Yeah. 21 A. Okay. I'm at 42. 22 BY MR. COLEMAN: 23 Q. 1995, it says that: At the 24 request of producers, the Pork Checkoff 25 increases to 45 cents of 1 percent (45 cents</p>	<p style="text-align: right;">Page 207</p> <p>1 Checkoff is, no. 2 Q. If we turn to the next page, 3 Page 43. It says: In 2003 -- the top of the 4 page -- the United States continues to export 5 more pork setting a new record for pork 6 experts for the 12th consecutive year. 7 Do you see that? 8 A. Yes. 9 Q. Do you know whether the Pork 10 Checkoff actively supported the export of 11 pork produced in the United States? 12 A. Actively supported it, no, I don't 13 know -- I don't know what you mean. Lobbying 14 for it? What do you mean by supporting it? 15 Q. Sounds like you have no knowledge 16 here, so defining terms is not going to help 17 us. 18 A. You used the word "support," which 19 is fairly ambiguous in that sentence. I 20 don't know what you mean by "support." 21 Q. You understand whether American 22 pork producers, independent producers have 23 taken measures to support an increase exports 24 of pork produced in the United States? 25 A. I think that someone selling pork</p>
<p style="text-align: right;">Page 206</p> <p>1 per hundred dollar value). This checkoff 2 rate stays the same until 2002. 3 Do you see that? 4 A. Yes. 5 Q. And do you have any understanding 6 of how Pork Checkoff funds are raised? 7 A. No. And it's not defined in the 8 bullet you give me. I mean, that's not even 9 a sentence. It just says Pork Checkoff 10 increases and presumes the reader knows how 11 Pork Checkout -- the institution is called 12 Pork Checkoff, and they've designed a metric 13 with the same name, Pork Checkoff, and they 14 say that their institution's name has 15 increased to .451 percent. 16 I mean, just looking at that, it's 17 impossible to know what they are talking 18 about. 19 Q. Yeah. And so -- not a test. But 20 I just want to know if you -- maybe 21 established this already, and I'm going to 22 get an asked and answered objection. 23 But do you know what the Pork 24 Checkoff is? 25 A. I don't recall what the Pork</p>	<p style="text-align: right;">Page 208</p> <p>1 would be looking for opportunities to make 2 export sales. 3 Q. And not only that, but independent 4 hog producers have long supported exports of 5 domestically raised pork, right? 6 MR. RISSMAN: Object to form. 7 Foundation. 8 A. I don't know if that's true. 9 BY MR. COLEMAN: 10 Q. The next page, Page 50 -- I'm 11 sorry. Page 44. I'm sorry. I'm sending you 12 on a goose chase. 13 2005, it says that: America's 14 pork producers continue to grow sales abroad 15 with the United States becoming the largest 16 pork exporter. 17 Do you see that? 18 A. Yes. 19 Q. And, again, that would appear to 20 indicate that America's pork producers, the 21 mission of theirs to expand pork exports, 22 right? 23 MR. RISSMAN: Object to form and 24 foundation. 25 A. It just says that America's pork</p>

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1 producers continue to grow sales abroad, with
2 the United States as one of the largest pork
3 exporters.

4 BY MR. COLEMAN:

5 Q. And if we looked on the next page,
6 2007, so on Page 45, it says: US pork
7 exports broke records for the 16th
8 consecutive years -- year. Exports totaled
9 1.3 million metric tons, nearly 2.9 billion
10 pounds at a value exceeding 3.15 billion.

11 Do you see that?

12 A. Yes.

13 Q. And you don't dispute this was an
14 effort by independent pork producers, right?

15 MR. RISSMAN: Object to form.
16 Foundation.

17 A. I don't think from that bullet you
18 can tell that it's effort from independent
19 pork producers. I don't know how you get
20 that from that bullet.

21 BY MR. COLEMAN:

22 Q. I am asking about your knowledge.

23 A. Oh. I don't know -- I don't know
24 what independent pork producers were
25 advocating in 2007.

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1 BY MR. COLEMAN:

2 Q. But you do offer the opinion that
3 increase in exports raised the price of pork,
4 right?

5 A. I offer record evidence suggesting
6 that that was the effect and that was the
7 understanding of the defendants in the case,
8 that they could move pork outside of the US
9 and put it abroad, that it could cause the
10 prices in the US to rise.

11 Q. And if the price of pork
12 increases, the value of hogs increased,
13 right?

14 MR. RISSMAN: Objection. Same
15 instruction. If you have an opinion
16 you're offering in this case, you can
17 give it; otherwise, you shouldn't
18 answer.

19 A. Yeah, that's not an opinion that
20 I'm offering in this case.

21 BY MR. COLEMAN:

22 Q. So you don't know one way or the
23 other whether increased exports over time
24 have raised hog values and supported domestic
25 production of hogs?

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1 Q. Increased exports is good -- are
2 good for independent pork producers, right?

3 MR. RISSMAN: Object to form.

4 And instruct the witness to only
5 answer questions he's -- has an
6 opinion about.

7 A. Well, I don't have an opinion on
8 those.

9 BY MR. COLEMAN:

10 Q. Do you have -- you don't have
11 opinion one way or the other whether
12 increased exports benefit independent hog
13 farmers?

14 MR. RISSMAN: I will just
15 clarify that I mean an opinion in this
16 case.

17 A. No, I haven't offered an opinion
18 in this case on that.

19 BY MR. COLEMAN:

20 Q. Do you have any opinion as to
21 whether increased exports of pork have over
22 time encouraged the expansion of domestic hog
23 farms?

24 MR. RISSMAN: Same instruction.

25 A. Not in this case, no.

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1 MR. RISSMAN: Same instruction.

2 A. I don't have an opinion, and that
3 would require a different model unrelated to
4 the relevant market here. It would be
5 modeling production upstream.

6 BY MR. COLEMAN:

7 Q. Well, it would increase quantity
8 of hogs and ultimately pork, right? More
9 hogs are being produced on American farms?

10 MR. RISSMAN: Object to form.

11 And same instruction.

12 A. You said "it." I'm not sure what
13 the "it" is. What's the trigger that
14 supposedly increases production upstream?

15 BY MR. COLEMAN:

16 Q. Higher hog value would encourage
17 farmers to grow more hogs, right?

18 MR. RISSMAN: Same instruction.

19 A. Yeah. I'm not offering an opinion
20 there. I do use, you know, cost of the --
21 the cost of the -- to raise the hog is an
22 explanatory variable of prices in the
23 relevant market. But I hear your question
24 as, you know, whether there's some kind of
25 feedback effect in the upstream market. I

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1 haven't studied that.

2 MR. COLEMAN: Jacob, can you go
3 to Page 104. There we go. It's
4 called the chart -- I'm interested in
5 the chart with the header: US Pork
6 Exports.

7 BY MR. COLEMAN:

8 Q. And that chart shows that dating
9 to the mid-'90s, when NAFTA was signed,
10 there's been a steady upward tick in US pork
11 exports, right?

12 A. Correct.

13 Q. And that long predates the class
14 period and the control period -- the before
15 period that you used, right?

16 MR. RISSMAN: Object to form.
17 Mischaracterizes the document.

18 A. What I will say is that this --
19 this trend of increasing exports predates the
20 class period.

21 BY MR. COLEMAN:

22 Q. And it also predates the before
23 period that is 2005 to 2008, right?

24 A. Correct. And I'm not -- I'm
25 studying prices. I'm not trying to come up

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1 but-for world.

2 You know, I didn't do that. I can
3 tell you what the graph would look like is
4 that it would still continue going upward.
5 It just wouldn't have gone up by as fast a
6 rate as it did absent the challenged conduct.

7 BY MR. COLEMAN:

8 Q. How would you go about modeling
9 what exports would have looked like in the
10 but-for world?

11 A. I think I would need just to aim
12 my machinery not at prices but at exports. I
13 would try making exports the dependent
14 variable, but, you know, that's not how I set
15 about establishing anticompetitive injury
16 here.

17 Maybe some other expert is
18 interested in doing that, but I'm not trying
19 to come up with a decomposition, as I told
20 you, of the causes of the domestic reduction.
21 We can see it very clearly in one of my first
22 figures where we show that the domestic
23 production fell below trend.

24 And, you know, what I'm trying to
25 figure out is how much of that domestic

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1 with an empirical model to predict output or
2 exports. I'm setting the effect of the
3 alleged conspiracy on prices in my
4 econometric model.

5 Q. I mean, another interesting thing
6 about this graph is that the first-time
7 exports declined from NAFTA in 1994 to the
8 end of the graph is 2009, the first year
9 where there's supposed cartel in which
10 there's a conspiracy to export pork, right?

11 MR. RISSMAN: Object to form.

12 A. So the conspiracy is not
13 exclusively about exporting. We have
14 mentioned this now about ten times. But
15 exporting is one of several levers that the
16 defendants allegedly use to reduce domestic
17 supply.

18 The fact that it fell in '9
19 relative to this stupendous year in '8 isn't
20 all that remarkable. What I want to see is
21 -- '9 is still an impressive upward trend
22 relative to all preceding years except for
23 '8, and I want to see what the trend looked
24 like beyond that if I were inclined to model
25 what exports would have looked like in a

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1 production declined can be attributed to the
2 challenged conduct. And I -- you're familiar
3 with my output section. It turns on the
4 price effects and the own price of elasticity
5 of demand faced by the defendants.

6 Q. So we have a snapshot of the
7 preconspiracy period. What happened to
8 exports on the post-conspiracy period?

9 A. You mean after 2018?

10 Q. Yes.

11 A. Sitting here, I can't tell you
12 what happened.

13 Q. So you're not aware that pork
14 exports increased 11 percent in 2020, for
15 example?

16 A. No, but that wouldn't surprise me.
17 It seems like just as the world markets are
18 growing, especially the demand for
19 US-produced pork, I would expect that exports
20 would trend up over time.

21 That doesn't mean the -- an
22 agreement to shift into overdrive could not
23 have amplified or accelerated exports over
24 what it would have been in the absence of the
25 challenged conduct. There's a secular trend

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1 upward. So the fact that it continues to go
2 up, I don't think is dispositive to tell us
3 what the effect of the challenged conduct was
4 on exports.

5 Q. And included in your answer is a
6 recognition that there's been increasing
7 demand for US agricultural products including
8 pork over time, right?

9 MR. RISSMAN: Object to form.

10 A. I think that that's fair, and
11 that's why I control for certain things in my
12 regression -- in my price regression model.
13 It's not an export model. It's a price
14 regression model, including a time trend.

15 BY MR. COLEMAN:

16 Q. Did you control for foreign demand
17 for US pork?

18 A. Well, like I just said, the time
19 trend might capture it. Let me look just to
20 see if there are any other variables that
21 might pick that up.

22 Well, the only other variable that
23 I think would pick that up -- I mean,
24 everything could be affected in theory, but
25 the most logical is that real GDP per capita

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1 would increase with exports generally. And
2 so if exports generally were going up over
3 time, then real GDP per capita could capture
4 that as well.

5 But I think the time trend is
6 probably what's most aimed at capturing a
7 steady secular trend -- upward trend exports
8 for US pork.

9 Q. Did it control for perceptions
10 about the safety or quality of US pork,
11 whether positive or --

12 A. Sure. Sure. That's the swine flu
13 flag.

14 Q. Anything else?

15 A. No. I think that's the one that
16 would have affected US consumers' perception
17 of the quality of pork or the safety of pork.

18 Q. Do you have any sense of whether
19 there's been anything else that's affected
20 the foreign perceptions of the safety or
21 quality of US pork?

22 A. In my model, I don't think that
23 I've got other things that are capturing
24 foreign perceptions of US safety besides the
25 variable that captures the swine flu.

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1 Q. Did you control for the foreign
2 production of hogs in Japan, China, Russia,
3 et cetera?

4 A. No, I did not and, you know,
5 there's a technical problem in doing that, is
6 that we want to avoid putting quantities on the
7 right-hand side of a price regression. This
8 model reduced for a price regression, so if
9 you introduce quantities, you can encounter
10 what econometricians call the endogeneity
11 problems.

12 So we -- we are trying to come up
13 with variables that move the supply and
14 demand around for the product at issue
15 without bringing quantities explicitly into the
16 model.

17 Q. If foreign production of pork
18 drops because of disease, drought, any other
19 factors like that, that might increase demand
20 for US pork, right?

21 MR. RISSMAN: Object to form.

22 Incomplete hypothetical.

23 A. You could tell all sorts of
24 stories, but the problem is that if foreign
25 production is a function of the US pork

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1 price, then it cannot enter the right-hand
2 side of a regression model. You would have
3 to come up with some instrument for foreign
4 production.

5 BY MR. COLEMAN:

6 Q. You control for currency
7 fluctuations?

8 A. I think in one model we do, but I
9 would have to kind of go through this. It
10 might not be until we do the passthrough.
11 But it seems -- it seems familiar, but it's
12 possible. I would just have to look through.

13 Q. Do you control for trade
14 agreements or trade policies?

15 A. No, we don't control for trade
16 policies.

17 Q. There were been several in the
18 class period, right, that would impact the
19 demand for US pork?

20 A. During the class period? I mean,
21 NAFTA would predate the class period. Maybe
22 you can tell me which trade policies you have
23 in mind from 2014 forward.

24 Q. Nothing comes to mind as you sit
25 here today?

<p style="text-align: right;">Page 221</p> <p>1 A. The big trade agreements I think</p> <p>2 predated 2014, but you could tell me which</p> <p>3 one you have in mind, or not.</p> <p>4 Q. Did you control for actions by</p> <p>5 other countries increasing or decreasing</p> <p>6 restrictions on US pork?</p> <p>7 A. No. Because we are looking at</p> <p>8 domestic pork sales, and this is -- it would</p> <p>9 be meant for the US market. So looking at</p> <p>10 restrictions in foreign countries would be</p> <p>11 irrelevant.</p> <p>12 Q. Well, so, for example, if a</p> <p>13 country lifts the restriction on ractopamine</p> <p>14 or imposes a restriction on ractopamine used</p> <p>15 in pigs, that might affect foreign demand for</p> <p>16 domestically raised pigs, right?</p> <p>17 A. I'm not modeling domestically</p> <p>18 raised pigs. I'm looking at sales of pork</p> <p>19 into the United States. I'm not looking at</p> <p>20 exports. These are just domestic production</p> <p>21 for domestic consumption.</p> <p>22 Q. Well, you're -- one of the levers</p> <p>23 of the supposed conspiracy is increasing</p> <p>24 exports, right?</p> <p>25 A. One of the levers that were</p>	<p style="text-align: right;">Page 223</p> <p>1 A. In part, but that was just one of</p> <p>2 three different levers, and then also the</p> <p>3 price increases -- the artificial price</p> <p>4 increases would have reduced output as well.</p> <p>5 Q. Go to Tab 60.</p> <p>6 A. Okay.</p> <p>7 Q. Do you understand that the US</p> <p>8 Department of Agriculture has actively</p> <p>9 promoted the export of pork among other</p> <p>10 domestically raised agricultural products?</p> <p>11 A. Well, I mean, now that I'm looking</p> <p>12 at this document, I can't help from doing it.</p> <p>13 I think that the USDA might do that in</p> <p>14 general, but I can accept this premise, that</p> <p>15 that's one of their missions is to help</p> <p>16 export US products.</p> <p>17 Q. And, in fact, do you recognize</p> <p>18 that the 2014 farm bill, part of its mission</p> <p>19 to increase -- the Department of Agriculture</p> <p>20 increase exports by promoting domestically</p> <p>21 raised products like pork and other products?</p> <p>22 MR. RISSMAN: Objection.</p> <p>23 Foundation.</p> <p>24 A. Yeah. I mean, the first paragraph</p> <p>25 says something to that effect.</p>
<p style="text-align: right;">Page 222</p> <p>1 designed to reduce the supply for the</p> <p>2 domestic consumption was exporting. That is</p> <p>3 correct.</p> <p>4 Q. And I think we have gone through a</p> <p>5 number of things that could -- factors that</p> <p>6 could influence the export of US pork, right?</p> <p>7 MR. RISSMAN: Object to form.</p> <p>8 And that mischaracterizes the</p> <p>9 testimony.</p> <p>10 A. Sitting here, I don't recall the</p> <p>11 factors -- if we have identified factors that</p> <p>12 influence exports. We just talked about the</p> <p>13 secular trend of increasing exports over</p> <p>14 time.</p> <p>15 BY MR. COLEMAN:</p> <p>16 Q. Well, do you deny that the</p> <p>17 relative value of US dollar for currency</p> <p>18 fluctuation would affect foreign demand for</p> <p>19 US pork?</p> <p>20 A. It could affect foreign demand,</p> <p>21 but that's not what I'm modeling. I'm not</p> <p>22 modeling exports. I'm modeling domestic</p> <p>23 consumption of pork.</p> <p>24 Q. And your view is that exports were</p> <p>25 used to lower domestic consumption, right?</p>	<p style="text-align: right;">Page 224</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. You are not aware of that on your</p> <p>3 own?</p> <p>4 A. Sitting here, I don't have -- I</p> <p>5 did not -- I did not study the ramifications</p> <p>6 of the 2014 farm bill.</p> <p>7 Q. It allocated a significant amount</p> <p>8 of money to promoting USA pork, right --</p> <p>9 exports of US pork?</p> <p>10 MR. RISSMAN: Object to form.</p> <p>11 A. You can't know that from the -- at</p> <p>12 least the first paragraph.</p> <p>13 BY MR. COLEMAN:</p> <p>14 Q. Did you control for whatever</p> <p>15 impact the government's promotion of US pork</p> <p>16 might have had?</p> <p>17 A. No, because I'm not modeling --</p> <p>18 sorry. I thought you were done. Sorry. Why</p> <p>19 don't you go ahead.</p> <p>20 Q. No, go ahead. I'm good.</p> <p>21 A. I'm not modeling the export</p> <p>22 markets. I'm modeling domestic consumption.</p> <p>23 So what the government is doing to promote</p> <p>24 exports is beyond the scope of what I'm</p> <p>25 investigating.</p>

<p style="text-align: right;">Page 225</p> <p>1 Q. I'm having a hard time</p> <p>2 understanding that because, on the one hand,</p> <p>3 you're telling me that there was a</p> <p>4 conspiracy -- one of the levers of which was</p> <p>5 to increase exports for the purpose of</p> <p>6 increasing prices in the US.</p> <p>7 On the other hand, you're telling</p> <p>8 me you're just uninterested in whether the</p> <p>9 government was actively promoting exports and</p> <p>10 what impact that might have had on increased</p> <p>11 exports during the class period.</p> <p>12 How should I be reconciling that</p> <p>13 in my mind?</p> <p>14 MR. RISSMAN: Object to --</p> <p>15 A. I said if I were --</p> <p>16 MR. RISSMAN: Hold on.</p> <p>17 Object to form. Argumentive.</p> <p>18 A. Yeah, if I were interested in</p> <p>19 modeling exports, this would be a reasonable</p> <p>20 inquiry. But I'm not intent on demonstrating</p> <p>21 anticompetitive effects here through some</p> <p>22 model of exports that showed exports being in</p> <p>23 excess of what they otherwise would have been</p> <p>24 in the absence of a challenged conduct.</p> <p>25 That's not my -- that's not my</p>	<p style="text-align: right;">Page 227</p> <p>1 definition, sure.</p> <p>2 Q. For example, ham would be a good</p> <p>3 example. Do you have any insights into how</p> <p>4 much ham the United States exports?</p> <p>5 A. No.</p> <p>6 Q. You didn't look at that?</p> <p>7 A. I don't offer an export model, and</p> <p>8 I'm not using an estimate of exports as my</p> <p>9 proof of antitrust injury here.</p> <p>10 Q. You're also aware that there's a</p> <p>11 significant amount of exports of offal and</p> <p>12 what are sometimes referred to as variety</p> <p>13 meats, right?</p> <p>14 A. Variety meats? Yes. I missed the</p> <p>15 first -- the first word that you said. Did</p> <p>16 you say offal?</p> <p>17 Q. Offal. Offal. I pronounce it as</p> <p>18 offal because it's closer to what these</p> <p>19 products actually sound like.</p> <p>20 A. Okay.</p> <p>21 Q. Right? Are you familiar with what</p> <p>22 offal is?</p> <p>23 A. I'm familiar -- I've come across</p> <p>24 some variety once. I don't know if I have</p> <p>25 come across offal.</p>
<p style="text-align: right;">Page 226</p> <p>1 model. It's not what I set out to do. It</p> <p>2 could be an interesting academic exercise,</p> <p>3 but it's not in my report. It's not in proof</p> <p>4 of impact. We can talk about alternative</p> <p>5 models that I didn't put forward until we are</p> <p>6 blue in the face, but all I can do today is</p> <p>7 defend my model, the logic of my model, the</p> <p>8 control variables of my model, and my model</p> <p>9 is a price model in the domestic market.</p> <p>10 BY MR. COLEMAN:</p> <p>11 Q. So are you able to distinguish</p> <p>12 exports -- increases in exports that are</p> <p>13 attributable to the US government promoting</p> <p>14 US pork versus exports that resulted from the</p> <p>15 supposed conspiracy?</p> <p>16 A. I don't aim to do that. I am not</p> <p>17 modeling exports. I don't have an export</p> <p>18 model.</p> <p>19 Q. And you're aware that many of the</p> <p>20 exports of pork products from the United</p> <p>21 States or other countries include products</p> <p>22 that are not class products, using your</p> <p>23 definition, right?</p> <p>24 A. It is conceivable that some of US</p> <p>25 exports of pork sit outside of the class</p>	<p style="text-align: right;">Page 228</p> <p>1 Q. Are you familiar with the fact</p> <p>2 that -- well, the defendants increase -- I am</p> <p>3 sorry, export a significant amount of pig</p> <p>4 parts like bungs, snouts, organ meat to other</p> <p>5 markets?</p> <p>6 A. I'm sure they -- I am sure they</p> <p>7 could.</p> <p>8 MR. RISSMAN: Object to form.</p> <p>9 A. I am sorry.</p> <p>10 I'm sure they could. It's outside</p> <p>11 of the class definition, outside of the</p> <p>12 market that I'm interested in setting, which</p> <p>13 is domestic consumption. So all the things</p> <p>14 that are happening outside of scope of my</p> <p>15 study, I'm not studying by definition.</p> <p>16 BY MR. COLEMAN:</p> <p>17 Q. Do the data on which you relied to</p> <p>18 assess US exports include offal and variety</p> <p>19 meats?</p> <p>20 A. No. I widow out everything that</p> <p>21 doesn't meet the class definition before</p> <p>22 running my model.</p> <p>23 Q. What data set were you using for</p> <p>24 that?</p> <p>25 A. Defendants' data.</p>

<p style="text-align: right;">Page 229</p> <p>1 Q. You were using defendants' data of 2 exports? 3 A. No. I'm not looking at exports. 4 I don't know how many times I have to say 5 this. I'm looking at defendants' domestic 6 sales -- the transaction data for domestic 7 sales. But after I removed exports, I then 8 remove everything that doesn't meet the class 9 definition. 10 Q. So exports are a lever of the 11 supposed conspiracy, but you're not able to 12 point to any particular export of a class 13 product by any defendant in the class period? 14 A. Liquidation and harvest reduction 15 are also levers by which output was reduced, 16 and I don't have variables on the right-hand 17 side to capture those strategies either. 18 I'm using a conduct dummy that 19 tracks when Agri Stats started sharing 20 competitively sensitive information among 21 defendants. That's my measure of the 22 challenged conduct, not these ancillary 23 mechanisms by which output was suppressed. I 24 don't want to have three or four conduct 25 variables in my model.</p>	<p style="text-align: right;">Page 231</p> <p>1 liquidation section and see which defendants 2 are described there. 3 Q. Is Smithfield one of them? 4 A. I believe so. But I can't do this 5 by memory. Do you want turn to the section? 6 160 -- Page 160. 7 Q. Go ahead. 8 A. Smithfield is mentioned in 9 Paragraph 211 and 212. 10 Q. Are you aware of any other 11 defendant that increased its sow herd -- 12 decreased its sow herd in the class period? 13 A. Well, we are talking about in 14 2012. We mentioned Tyson and Seaboard, and 15 then we are talk in 210 about this industry 16 council that appeared to be intent on 17 reducing the sow herd. 18 Q. Yeah. What were you referring to 19 specifically with the industry council? 20 A. This Producer Packer Industry 21 Council, PPIC. It's in the middle of 210. 22 Q. Yeah. And who participates in 23 that NIPC [sic] organization? 24 A. Well, if you look at Footnote 394, 25 it says the PPIC meeting invitation was sent</p>
<p style="text-align: right;">Page 230</p> <p>1 I just want one, and it turns to 2 one in the year 2009 when Agri Stats launched 3 certain documents that would support or 4 facilitate the alleged conspiracy here. 5 Q. So you are not able -- sitting 6 here today, you're not able to point to a 7 single sale -- a foreign sale of a pork 8 product in the class period that you are able 9 to identify as caused by the conspiracy? 10 MR. RISSMAN: Object to form. 11 A. It just was not an objective of 12 mine. It wasn't part of the assignment to go 13 and do a decomposition of exports of those 14 that would have occurred in the but-for world 15 and those that occurred in the actual. That 16 was not part of my assignment. 17 BY MR. COLEMAN: 18 Q. Can you call up Tab 27. 19 So how did -- a challenged conduct 20 that's been alleged and one of the levers of 21 the supposed conspiracy that you point to is 22 a reduction in the sow herd by Smithfield, 23 and I think there's also an allegation about 24 Tyson, right? 25 A. We would have to go to my</p>	<p style="text-align: right;">Page 232</p> <p>1 to Clemens, Hormel, JBS, Seaboard and 2 Smithfield and Tyson. 3 Q. Are those the only participants? 4 A. For this document. I mean, it's 5 conceivable that others were participating, 6 but I mean, that would be enough. 7 Q. Well, if there are any number of 8 independent producers and others in the 9 room -- 10 A. No, no. These are -- these are 11 packers. This has nothing to do with 12 upstream. So these are -- these are -- 13 (Simultaneous unreportable 14 crosstalk.) 15 Q. Do you know whether the -- I am 16 sorry. 17 A. Can I finish? 18 Q. Yeah, you can finish. 19 A. To clarify what I meant, these -- 20 this isn't -- an invitation to reduce the sow 21 herd that was sent to the defendant packers 22 could only affect the upstream production 23 done by the defendant packers. It couldn't 24 implicate the independents from my read of 25 this.</p>

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1 Q. So your reading of the document
2 that you're citing is that was specifically a
3 meeting limited to the packers; is that
4 right?

5 MR. RISSMAN: Objection. Form.

6 A. Well, Footnote 340 -- 394 lists
7 the defendants who received it, but I
8 can't -- I can't rule out the possibility
9 that others received the same -- the same
10 note.

11 BY MR. COLEMAN:

12 Q. Let's be real. You have no idea,
13 right?

14 MR. RISSMAN: Objection. It's
15 just argumentative and rude and
16 disrespectful.

17 MR. COLEMAN: Well, he's making
18 it up as he goes along.

19 MR. RISSMAN: Well, that's just,
20 again, so unprofessional. You can
21 just ignore that question, Dr. Singer.
22 It's not a real question.

23 (Reporter clarification.)

24 BY MR. COLEMAN:

25 Q. Who was in that meeting, the

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1 don't know.

2 BY MR. COLEMAN:

3 Q. Yeah. Okay. So let's come back
4 to Paragraph 212.

5 A. Okay.

6 Q. There's a reference to Smithfield
7 liquidating 130,000 sows in 2009, right?

8 A. Yes.

9 Q. And a reference to Tyson
10 liquidating 20,000 sows in 2009, right?

11 A. Yes.

12 Q. And Seaboard liquidating 30,000
13 sows in 2009, right?

14 A. Yes.

15 Q. And you wrote that, right, that
16 sentence?

17 A. Yes.

18 Q. You stand by it?

19 A. Yes.

20 Q. And what did you do to investigate
21 that Seaboard liquidated 30,000 sows in 2009?

22 A. I've got two sources for it in
23 403.

24 Q. What are they?

25 A. Well, one is the TFP that ends in

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1 Producer Packer Industry Council meeting?

2 A. Well, it says -- the language here
3 says that it was an industrywide
4 recommendation.

5 Q. Did you write that?

6 A. Yes.

7 Q. So you must have had some
8 knowledge about what you were writing at the
9 time, right?

10 A. Well, to me what was important was
11 the fact that I highlighted it, which was
12 that it was sent out to the defendants. You
13 are asking me who else it was sent out to. I
14 don't know who else it was sent out to.

15 Q. It's an industrywide
16 recommendation. You don't know whether that
17 include -- that industrywide recommendation
18 included the 70 percent of hog production
19 that's controlled by independent producers,
20 do you?

21 MR. RISSMAN: Object to form.

22 A. I don't know for a fact. I mean,
23 it's a reasonable inference from the language
24 there, but you're asking do I know for a fact
25 who received it. I don't. Sitting here, I

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1 765, and then SPF that ends in 924.

2 Q. And as you sit here today, you
3 continue to believe it's true that Seaboard
4 liquidated 30,000 sows in 2009?

5 A. Yeah, that's -- yes.

6 Q. Are you aware of any other sow
7 reduction in the class period by any other
8 defendant?

9 A. Well, you're just looking at 212,
10 but I think that -- I think 212 captures each
11 of the defendants that I'm aware of that
12 liquidated sows in 2009 or during the conduct
13 period.

14 Q. Focusing on Smithfield, do you
15 have any idea what its -- whether it was
16 suffering operating losses in 2009?

17 A. No.

18 Q. Do you know whether it was losing
19 money on its hog production operation?

20 A. You just asked me about its
21 upstream division?

22 Q. Yeah, its production of hogs.

23 A. No. I don't know that.

24 Q. Do you know whether it had good
25 economic reasons for liquidating 130,000

<p style="text-align: right;">Page 237</p> <p>1 sows?</p> <p>2 MR. RISSMAN: Object to form.</p> <p>3 A. No. I don't know what the</p> <p>4 economic reasons was for that liquidation.</p> <p>5 BY MR. COLEMAN:</p> <p>6 Q. And same question for Tyson. Do</p> <p>7 you know whether Tyson was facing losses on</p> <p>8 its hog production operation in 2009?</p> <p>9 A. No idea.</p> <p>10 Q. And do you know whether the</p> <p>11 liquidation of 20,000 sows by Tyson in 2009</p> <p>12 benefited its overall profitability?</p> <p>13 MR. RISSMAN: Object to form.</p> <p>14 A. I think that if you go by what you</p> <p>15 said on -- in Paragraph 210, that liquidation</p> <p>16 was needed to improve profitability of the</p> <p>17 upstream industry, and so my surmise would be</p> <p>18 that as a result of the liquidation that we</p> <p>19 saw, that immediately followed that, that</p> <p>20 assisted the upstream industry.</p> <p>21 MR. COLEMAN: I think we are at</p> <p>22 a point where we are about on the</p> <p>23 90-minute cadence. So we can take a</p> <p>24 pause.</p> <p>25 MR. RISSMAN: Sounds good.</p>	<p style="text-align: right;">Page 239</p> <p>1 A. I don't know. Let me -- let me go</p> <p>2 to 47.</p> <p>3 Q. Yeah. Take your time.</p> <p>4 A. Okay. Let me see.</p> <p>5 Okay.</p> <p>6 Q. And on Page 5007, Page 10 of the</p> <p>7 document -- yeah, we are on the right spot --</p> <p>8 there's a section on pork trade update.</p> <p>9 Are you with me?</p> <p>10 A. Yes.</p> <p>11 Q. And in the middle of the</p> <p>12 paragraph, it says: Effects from the FMD</p> <p>13 crisis in South Korea and the nuclear</p> <p>14 concerns in Japan caused export surges during</p> <p>15 the spring, and China has stepped up again</p> <p>16 during the second half of year, resulted in</p> <p>17 much stronger exports than anticipated</p> <p>18 heading into the year.</p> <p>19 Do you see that?</p> <p>20 A. Yes.</p> <p>21 Q. Do you know what the FMD crisis in</p> <p>22 South Korea was about?</p> <p>23 A. No.</p> <p>24 Q. In any case, nothing in that</p> <p>25 paragraph relates to the purported</p>
<p style="text-align: right;">Page 238</p> <p>1 THE VIDEOGRAPHER: The time is</p> <p>2 3:13 p.m. We are going off the</p> <p>3 record.</p> <p>4 (A brief recess was held from</p> <p>5 3:13 p.m. to 3:25 p.m.)</p> <p>6 THE VIDEOGRAPHER: The time is</p> <p>7 3:25 p.m., and we are back on the</p> <p>8 record.</p> <p>9 BY MR. COLEMAN:</p> <p>10 Q. Can you call up -- well, let's</p> <p>11 refer to -- first to Paragraph 42 of your</p> <p>12 report. It's about exports. And the first</p> <p>13 line of Paragraph 42 is: The evidence</p> <p>14 indicates starting around 2009, defendant</p> <p>15 processors and Agri Stats made exporting pork</p> <p>16 to keep it out of the US market a deliberate</p> <p>17 strategy, right?</p> <p>18 A. Yes.</p> <p>19 Q. You wrote -- and you cite some</p> <p>20 documents that you believe support that</p> <p>21 proposition, right?</p> <p>22 A. Yes.</p> <p>23 Q. And one of the documents you cited</p> <p>24 is -- we see at Tab 47, the Bates number</p> <p>25 SPF00294998, right?</p>	<p style="text-align: right;">Page 240</p> <p>1 conspiracy, does it?</p> <p>2 A. I would have to read the whole</p> <p>3 paragraph. Just give me one second. You</p> <p>4 just want me to address that paragraph?</p> <p>5 Q. Sure.</p> <p>6 A. Hold on one second.</p> <p>7 I think I grant you that the rest</p> <p>8 of those examples provided in that paragraph</p> <p>9 seem to be unrelated to the challenge</p> <p>10 conduct.</p> <p>11 Q. And this is an independent, or at</p> <p>12 least nondefendant -- the document was</p> <p>13 produced by Informa Economics, which is a</p> <p>14 nondefendant, right?</p> <p>15 A. Well, they're a nondefendant.</p> <p>16 They might work for defendants, but they're</p> <p>17 not a defendant. That's correct.</p> <p>18 Q. And Informa Economics doesn't say</p> <p>19 anything about deliberate strategy of pork</p> <p>20 producers to coordinate on export of pork</p> <p>21 products, does it?</p> <p>22 A. That's correct. Fair.</p> <p>23 Q. At the end of that paragraph, it</p> <p>24 says: Informa is of the belief that a</p> <p>25 forecast of a 4 percent decline in exports in</p>

<p style="text-align: right;">Page 241</p> <p>1 2012 is being optimistic and could have some 2 downside risk. 3 Do you see that? 4 A. Yes. 5 Q. And, in fact, there was a decline 6 in exports that year, right? 7 MR. RISSMAN: Objection. 8 Mischaracterizes the document. 9 A. Well, it -- you couldn't know that 10 from the document because the document was 11 produced in '11, so I can't tell you what 12 happened in '12. 13 BY MR. COLEMAN: 14 Q. This was a forecast. Informa 15 was -- their forecast of the market was there 16 would be a decline in exports, and my 17 question is whether you know whether that 18 actually happened? 19 A. No, I don't. 20 Q. And we go to 5002 -- yeah. So go 21 up above that graph. 22 A. Okay. 23 Q. There's a reference to culling the 24 sow herd, and it says: In particular, but 25 given the strength in cull sow prices,</p>	<p style="text-align: right;">Page 243</p> <p>1 sow herd. 2 Do you have an opinion on that? 3 A. No, I don't have opinion, but I 4 would -- I think it's consistent with the 5 theory of harm, with the allegations in the 6 case, that some liquidation would have 7 occurred even in a but-for world. I don't 8 think that the theory of harm posits that 9 liquidation would be zero. 10 And there could be good 11 justification for a particular liquidation. 12 The -- the theory of harm as spelled out in 13 the complaint is that there are -- some of 14 the incremental liquidation that occurred can 15 be attributed to the challenged conducts. 16 Q. And you -- you don't quantify how 17 much? 18 A. I'm trying to estimate prices in 19 the processor market, and that meant -- 20 exercise to me is an academic one. It would 21 not inform what I'm trying to estimate in my 22 report. 23 Q. In any case, the replacement of 24 older sows with younger and fresher genetics 25 would be procompetitive, right?</p>
<p style="text-align: right;">Page 242</p> <p>1 producers were able to replace the older sows 2 with younger and fresher genetics are 3 receiving the top value for the culls. 4 Do you see that? 5 A. Yes. 6 Q. But did your model account for the 7 price that Tyson or Smithfield obtained for 8 the sows that they liquidated? 9 A. No. I'm trying to estimate prices 10 in a different market -- in a relevant market 11 here to process for clients, so I'm trying to 12 control -- 13 (Simultaneous unreportable 14 crosstalk.) 15 MR. COLEMAN: In any case -- 16 MR. RISSMAN: Let the witness 17 complete his question. 18 A. I just wanted to add that I'm 19 trying to control for factors that would 20 affect prices in the relevant market, not in 21 the upstream market. 22 BY MR. COLEMAN: 23 Q. Yeah. I'm just interested in 24 whether Smithfield made -- or Tyson made 25 economically sound decisions to cull their</p>	<p style="text-align: right;">Page 244</p> <p>1 MR. RISSMAN: Object to form. 2 Calls for a legal conclusion. 3 A. I don't think that that 4 motivation, as you have just described it, 5 has any kind of anticompetitive tint to it. 6 BY MR. COLEMAN: 7 Q. Coming back to the -- there was 8 some question and answer earlier about the 9 benchmark period versus the conspiracy 10 period. 11 So to some extent, I think you've 12 addressed this already, but I want to revisit 13 it. I will just ask you, how did you go 14 about choosing the benchmark period? 15 A. Well, the benchmark period was a 16 clean period in which the alleged challenged 17 conduct -- I should say, in which the 18 challenged conduct was absent. And so that's 19 the 2005 to 2008 period that we are using as 20 the clean period. 21 Q. And Paragraph 151 of your 22 report -- and I will give you a minute to get 23 there. 24 A. Paragraph -- give it to me again. 25 Q. 151. This is in your</p>

<p style="text-align: right;">Page 245</p> <p>1 quantitative.</p> <p>2 A. Okay.</p> <p>3 Q. You write that the -- quote, the</p> <p>4 percentage change in price associated with</p> <p>5 the challenged conduct is given by B1 or beta</p> <p>6 one --</p> <p>7 A. Right.</p> <p>8 Q. -- end quote, which I take is the</p> <p>9 regression coefficient for that dummy</p> <p>10 variable, right?</p> <p>11 A. Correct.</p> <p>12 MR. RISSMAN: I'm sorry. Craig,</p> <p>13 are you on -- you are on</p> <p>14 Paragraph 151?</p> <p>15 MR. COLEMAN: Yes.</p> <p>16 MR. RISSMAN: Okay. I think the</p> <p>17 screen is not with you.</p> <p>18 There we go.</p> <p>19 THE WITNESS: I'm looking at my</p> <p>20 report.</p> <p>21 BY MR. COLEMAN:</p> <p>22 Q. And it says: The equation above,</p> <p>23 the percentage change in price associated</p> <p>24 with challenged conduct is given by B1 or</p> <p>25 beta one, right?</p>	<p style="text-align: right;">Page 247</p> <p>1 the -- during the conduct period. It is</p> <p>2 telling us what the effect is across the</p> <p>3 entirety of the conduct period. So I will</p> <p>4 leave it that.</p> <p>5 Q. And can your model tell us the</p> <p>6 amount of overcharge in any particular time</p> <p>7 frame, like, say, a given month in a given</p> <p>8 year at any point in the time period?</p> <p>9 A. Well, you could -- using my model,</p> <p>10 you could go make a prediction within a</p> <p>11 particular month if you were very interested</p> <p>12 in a particular month for some reason. You</p> <p>13 could make a prediction of what the prices</p> <p>14 would have been in the absence of the</p> <p>15 challenged conduct, and you can compare those</p> <p>16 prices to the actual prices, if you were so</p> <p>17 inclined.</p> <p>18 Now, there's no apriority reason</p> <p>19 to do that given that the allegations are for</p> <p>20 an alleged conspiracy that spanned from 2009</p> <p>21 to 2018. So number one, you wouldn't be</p> <p>22 testing the theory of the case, the theory of</p> <p>23 harm.</p> <p>24 And number two, I haven't seen any</p> <p>25 -- I'm not aware of any record evidence that</p>
<p style="text-align: right;">Page 246</p> <p>1 A. Right.</p> <p>2 Q. And if the percentage changed</p> <p>3 given by beta one is positive, this implies</p> <p>4 the challenged conduct is associated with an</p> <p>5 increase in pork prices holding other factors</p> <p>6 constant, right?</p> <p>7 A. Correct.</p> <p>8 Q. Can you just explain how we should</p> <p>9 interpret percentage changes in beta one?</p> <p>10 What you mean by that?</p> <p>11 A. Right. So in a -- in a -- we do</p> <p>12 it -- e do it in levels in, and we do it in</p> <p>13 logs. And so I think the log model is</p> <p>14 probably the easiest one to explain, and that</p> <p>15 quite literally is telling you the percentage</p> <p>16 change in prices that can be attributed to</p> <p>17 the presence of the challenged conduct.</p> <p>18 Q. And so if we look at particular</p> <p>19 time periods, like, say, a month, like</p> <p>20 January 2010, just to pick an example, does</p> <p>21 your model tell us anything about the</p> <p>22 overcharge in that particular month?</p> <p>23 A. The way that the model is</p> <p>24 constructed now, it doesn't tell us anything</p> <p>25 specific about the particular month during</p>	<p style="text-align: right;">Page 248</p> <p>1 would suggest that we should go looking for a</p> <p>2 structural break in January of 2010; that is,</p> <p>3 there's no suggestion that the information</p> <p>4 exchange was any more or less wholesome in</p> <p>5 January of 2010.</p> <p>6 The information exchange of</p> <p>7 competitively sensitive information was the</p> <p>8 same across the challenged conduct -- across</p> <p>9 the conduct period.</p> <p>10 Q. Do you know whether every</p> <p>11 defendant subscribed to all the Agri Stats</p> <p>12 report throughout the time period?</p> <p>13 A. I got a chart that shows you which</p> <p>14 ones each defendant subscribed to in each</p> <p>15 year. But, you know, I know you want this to</p> <p>16 be a memorization test, but I can't tell you</p> <p>17 which boxes are checked by memory. We can go</p> <p>18 to the table.</p> <p>19 Q. Coming back to 151 and beta one in</p> <p>20 that line of questioning, so does it mean --</p> <p>21 is it your opinion that, for example, the</p> <p>22 direct purchasers of class products paid a</p> <p>23 12.8 percent overcharge in every month from</p> <p>24 January of 2009 to June of 2018?</p> <p>25 A. I think that the model I've</p>

<p style="text-align: right;">Page 249</p> <p>1 constructed, which constrains the parameter 2 to be the same across the challenged conduct 3 period -- the conduct period would suggest 4 that it was the same overcharge in each 5 month. That's correct. 6 Q. So in each incremental month from 7 January 1, 2009, through the end of the 8 conspiracy period, it's your opinion that 9 there was an overcharge of a specified 10 amount. 11 Here it's 12.8 percent for direct 12 purchasers of class products? 13 A. I can conceive -- I think that in 14 reality that the inflation likely varied 15 slightly over time, but this model and this 16 specification, which constrains the parameter 17 to be the same across the entirety of the 18 conduct period, the best prediction that I 19 would have for your favorite month, which is 20 January 2010, would be the parameter is 21 estimated. 22 Q. So does it mean that -- it's not 23 my favorite month. I'm just picking that as 24 an example, just to have a point of 25 reference.</p>	<p style="text-align: right;">Page 251</p> <p>1 one point in time, the model assumes that the 2 conspiracy had the same effect? 3 A. The model doesn't assume it, 4 right. I'm constraining the parameter to be 5 the same across the conduct period. That's 6 my design because, as I told you, I think 7 that's most consistent with the plaintiff's 8 theory of harm as a single conspiracy that 9 spanned the duration of the conduct period. 10 If I thought that plaintiffs were 11 asserting a series of mini conspiracies that 12 are stacked against each other in time, we 13 could have done something differently, but 14 that's not what I understand the theory of 15 harm to be. 16 Q. Did you do anything to evaluate 17 whether there were periods during the class 18 period in which overcharges were less than 19 the average? 20 A. No. You know, economics and 21 econometrics teachings is very clear in this, 22 that we don't go looking for structural 23 breaks without a good a priori reason. If 24 you do so, it is arbitrary, and you could 25 reach the wrong inference.</p>
<p style="text-align: right;">Page 250</p> <p>1 But is your testimony -- your 2 opinion mean that regardless of the specific 3 actions that defendants took, your model 4 assumes that the alleged conspiracy had the 5 same effect in every month? 6 A. No, that's not -- that's not what 7 it means. The model as constructed here is 8 seeking to estimate an effect that stretched 9 over the entirety of the challenged conduct 10 for the conduct period. The plants are not 11 asserting a sequence of mini conspiracies, 12 you know, lasting one month apiece. 13 If they were, if that were the 14 allegation, you know, we could go out and 15 test for differential effects by month, but 16 they're not. They're alleging a single 17 conspiracy that spanned the duration of the 18 conduct period, and I will leave it at that. 19 Q. But the levers of the conspiracy 20 are multifaceted and -- whether it's exports 21 or sow reductions or something else? 22 A. Or price hikes -- or price hikes, 23 yes. 24 Q. Sure. And so is it your opinion 25 that regardless of what levers were pulled at</p>	<p style="text-align: right;">Page 252</p> <p>1 So, you know, I go back to this, 2 that what you're positing isn't consistent 3 with a theory of harm. And also there is no 4 a priori reason in the record to suggest that 5 the conspiracy would have turned off or would 6 have been less potent in January of 2010 than 7 in any other month. 8 So for those reasons, I don't do 9 it. And economic -- econometric teachings 10 would counsel not doing it. 11 Q. You are aware that there was a 12 significant expansion of processing capacity 13 late in the class period that was, you know, 14 planned for and -- as early 2014 or 2015, 15 right? 16 MR. RISSMAN: Object to form. 17 A. I don't have a variable for 18 processing capacity, so I can't say that 19 that's something that I have studied. 20 BY MR. COLEMAN: 21 Q. So, for example, Clemens opened a 22 new plant during the class period, right? 23 A. It's possible they did. 24 Q. And Triumph Seaboard opened a new 25 plant as well, right?</p>

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1 A. I mean, the class period is a very
2 long duration in time, so I would be
3 surprised if there were no openings.

4 Q. Really? I thought we had the
5 existence of a cartel restricting pork
6 supply.

7 A. You interpret that --
8 (Simultaneous unreportable
9 crosstalk.)

10 A. I know -- I know of your
11 confusion, but go ahead.

12 Q. Well, I would have thought that
13 individual defendants investing tens or
14 hundreds of millions of dollars to build a
15 new packing plant to increase the supply of
16 pork products would be conduct dramatically
17 at odds with a conspiracy to restrict the
18 supply of pork, right?

19 A. Not at all. Not at all.

20 Q. Okay. Go ahead and explain.

21 A. Because you are interpreting the
22 conspiracy to mean that they -- it was a
23 conspiracy to shut output or keep their
24 capacity down to zero. That's not what's
25 being alleged. What is being alleged is that

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1 they took actions to tamper output relative
2 to what it would have been in the but-for
3 world.

4 So it's conceivable that we could
5 see capacity growing over time, and the
6 relevant question is, you know, would
7 capacity have been greater in a but-for world
8 absent the challenged conduct.

9 I know you look at the -- at an
10 increase and say, aha, that's evidence that
11 there's no conspiracy, but that's not how an
12 economist looks at it. An economist is
13 thinking about the margin -- the marginal
14 effect of the challenged conduct on capacity
15 at any point in time.

16 So the mere fact that you have
17 something going up is largely irrelevant.
18 It's kind of, you know, something -- you will
19 hear lawyers say something like, oh, prices
20 fell, so, therefore, there couldn't have been
21 a price effect in that month.

22 No. The question is: Did prices
23 fall by less than they would have in the
24 absence of a conspiracy?

25 Q. Well, a structural -- you refer to

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1 the concept of a structural break in the
2 class period. And I would have thought that
3 an individual defendant's decision to invest
4 in a new packing plant and significantly
5 expand production would have been a good
6 example of that, and you could have tested
7 whether -- the impact of that on an
8 overcharge, right?

9 MR. RISSMAN: Objection.
10 Compound.

11 A. I think you're getting confused
12 about -- about how I construct the conduct
13 variable. The conduct variable is equal to
14 one with the advent of Agri Stats' reports
15 that permitted and facilitated cartel-like
16 behavior, right.

17 And so it sounds like what you're
18 saying is I should depart from my
19 construction of the conduct variable, the way
20 I've done it, and redo it whenever someone
21 expands capacity.

22 And so, no, no, that's not what
23 I'm trying to capture. I'm trying to capture
24 the effect of the challenged conduct on
25 prices controlling for all of the things.

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1 I'm not going to -- I'm not going to revisit
2 my construction of the conduct parameter in
3 light of new capacity coming.

4 BY MR. COLEMAN:

5 Q. Your testimony was that there was
6 a conspiracy to -- I believe the word you
7 used was tamp down the supply of pork, right?

8 A. Domestic supply of pork, yes.

9 Q. And a decision by defendants to
10 build new packing plants is at odds with
11 that -- the goal of that conspiracy, isn't
12 it?

13 A. No, because the relevant question
14 is what the capacity would have looked like
15 in a but-for world absent the challenged
16 conduct. So the fact that you can point to
17 an episode of capacity expansion, right,
18 doesn't tell me anything about the effect of
19 the conduct on capacity.

20 And moreover, I just want to kind
21 of refocus. I'm trying to predict the effect
22 of the alleged conspiracy on pricing. My
23 model is a pricing model. I'm not trying to
24 predict capacity in the marketplace. Had
25 I've done so, then, you know, it would have

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1 been a completely different model with
2 completely different control variables, but
3 that's not what I'm trying to model.

4 Q. How many pork processing plants
5 would have been built in the class period but
6 for the conspiracy?

7 A. Again, I'm not -- I am modeling
8 capacity. Had my model been pointed at
9 capacity, I could tell you the answer to that
10 question. I'm trying to model the effect of
11 prices from the challenged conduct.

12 Q. You're telling me that capacity
13 was constrained in the world that you studied
14 versus the but-for world, and that my
15 question is missing the mark because in the
16 but-for world, there would have been
17 something better than what actually happened,
18 and I want to know how.

19 A. Right. So in the qualitative
20 section -- I think that there may be
21 confusion about my two models. So I have
22 one -- I have a quantitative model. That's a
23 regression model. It's trying to model the
24 prices in the but-for world.

25 And in the qualitative section, I

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1 am looking at record evidence that's
2 consistent with the allegations of the
3 complaint, namely, an attempt to suppress
4 output. And I point to a lot of record
5 evidence that's consistent with that. And so
6 when I see record evidence that suggests that
7 firms are coordinating the decisions on
8 output, that tells me that that coordination
9 allowed them to lower output relative to the
10 but-for world.

11 That does not tell me that output
12 has to be falling necessarily in the actual
13 world. It just tells me that output is lower
14 than it would have been absent the conduct.

15 Q. And with respect to processing
16 capacity, are you referring to the Saturday
17 shifts or something else?

18 A. Anything. I have a -- I have an
19 entire -- I will send you to the section of
20 my report where I try to inform the
21 three-part test that economists use to make
22 qualitative assessments of a likelihood of a
23 conspiracy.

24 Q. Well, I'm focused on what conduct
25 occurred that restricted processing capacity.

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1 I did read your report and took note of
2 allegations about -- or claims about Saturday
3 shifts being reduced, and wondering
4 whether you think there was any agreement,
5 coordination, otherwise about the
6 construction of new packing plants?

7 MR. RISSMAN: Objection. Calls
8 for a legal conclusion.

9 A. Well, I don't include that in the
10 levers that I review. If you look at the
11 levers I review, liquidation concerns the
12 upstream market, and then harvest reduction
13 and exports, which concerns the relevant
14 processing market. Exports being things that
15 would have otherwise sold -- some of which
16 would have otherwise sold in the United
17 States.

18 So as I hear your question, a
19 conspiracy to reduce capacity with other --
20 with other providers. Is that what -- is
21 that what the question is?

22 BY MR. COLEMAN:

23 Q. Yeah. And I guess -- I mean, to
24 cut to the chase, you don't have any reason
25 to believe that there would have been more

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1 packing plants but for the conspiracy?

2 MR. RISSMAN: Objection. I'm
3 going to instruct the witness to only
4 testify to that if he has an opinion
5 on that and is offering that in this
6 case.

7 A. I'm not offering that. I don't
8 have an opinion there.

9 BY MR. COLEMAN:

10 Q. And so, again, I'm getting at your
11 testimony here. You admonished me for not
12 properly comparing the world that happened to
13 the but-for world, and I want to know what
14 the but-for world would have looked like.

15 We don't know whether there would
16 have been -- you don't know or haven't
17 offered an opinion about whether there would
18 have been more packing plants, right?

19 A. I'm not offering an opinion on the
20 number of packing -- packing plants, no.

21 Q. And I mean, is your opinion that
22 there would have been more Saturday shifts
23 run in the but-for world?

24 A. I cite to evidence suggesting
25 that -- that some of these decisions with

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1 respect to harvest reduction could have been
2 flown from -- or could have -- could have
3 been motivated by or could have occurred as a
4 result of the challenged conduct, but I'm not
5 offering an opinion as to -- as to the number
6 of Saturdays that would have been operational
7 in the but-for world. I'm not offering on
8 opinion on that.

9 Q. And when you point to decisions
10 about, quote/unquote, harvest reductions, are
11 you aware or are you pointing to any
12 decisions by any defendant to reduce its
13 annual harvest of hogs during that class
14 period?

15 A. Well, I think that -- we can go to
16 that section, but I think that I do give
17 episodes of defendants making decisions to
18 reduce their harvest.

19 Q. I'm specifically interested in the
20 concept of the annual harvest versus a
21 Saturday shift and that -- the timing of
22 harvest.

23 Do you know whether any defendant
24 reduced the number of harvest days, for
25 example, in a year during the class period?

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1 A. Well, I think that if you shut
2 down Saturdays, that would affect the number
3 of days in the year.

4 Q. Did any defendant shut down
5 Saturdays?

6 A. I think we have discussed this
7 before.

8 Q. Episodically, maybe a Saturday
9 here or there. But did any defendant reduce
10 the number of harvest days they had year to
11 year?

12 A. No. We can go through each line,
13 you know, in 164. An internal Hormel e-mail
14 states that Smithfield shut down their Tar
15 Heel plant last week -- one day last week,
16 and they are doing the same this week for
17 maintenance, which Hormel said was more like
18 manipulating the market, and it was doing
19 it -- doing the same for hams.

20 Q. Did that reduce Smithfield's
21 annual production that year?

22 A. It could have.

23 Q. Is it anticompetitive to reduce
24 the plant for maintenance or to close the
25 plant for maintenance?

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1 A. Well, you are -- you are accepting
2 that they were doing it for maintenance
3 reasons. The question is whether or not this
4 shutdown was derived from the challenged
5 conduct.

6 Q. And you don't know, do you?

7 A. Well, I --

8 MR. RISSMAN: Object to form.

9 A. I'm offering evidence that's
10 consistent with the alleged conspiracy,
11 right. It's hard for me to say here
12 definitively that that came from it, but, you
13 know, I mean, the record evidence says what
14 it says.

15 BY MR. COLEMAN:

16 Q. There's a lot of conduct that you
17 say is consistent with challenged conduct,
18 but in this instance, it's also consistent
19 with Smithfield's plant needing maintenance,
20 right?

21 MR. RISSMAN: Object to form.

22 BY MR. COLEMAN:

23 Q. How do we know which is which?

24 MR. RISSMAN: Object to form.

25 A. I think that some record evidence

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1 in the qualitative section is more consistent
2 with -- with conduct from a cartel than
3 others, and then there's some evidence that
4 could be consistent with both.

5 And I feel like I'm not prepared
6 to make a determination that that evidence
7 alone has constituted anticompetitive
8 conduct. What my position is, and has been
9 all along, is that it's the combination of
10 the quantitative model that shows unexplained
11 inflation among defendants' prices during the
12 conduct period, plus the record evidence,
13 that allows me to conclude that this conduct
14 is more consistent with the cartel than with
15 unilateral behavior.

16 BY MR. COLEMAN:

17 Q. Are you aware of any specific
18 Saturday slaughter that a defendant decided
19 to go or you can pinpoint it to a deliberate
20 effort to facilitate the supposed conspiracy?

21 MR. RISSMAN: Objection. Calls
22 for a legal conclusion.

23 A. Yeah. I don't know how one would
24 go about designing a test for something like
25 that. So what I did was -- you saw what I

<p style="text-align: right;">Page 265</p> <p>1 did. I've reviewed evidence that's</p> <p>2 consistent with --</p> <p>3 BY MR. COLEMAN:</p> <p>4 Q. Right.</p> <p>5 A. -- a decision to reduce output as</p> <p>6 part of a coordinated information-sharing</p> <p>7 scheme.</p> <p>8 Q. Is there a single document that</p> <p>9 you reviewed in which a defendant indicates</p> <p>10 that it chose not to run a Saturday shift</p> <p>11 because it wanted to facilitate a conspiracy</p> <p>12 to reduce pork supply?</p> <p>13 A. I don't think that you're going to</p> <p>14 find a document -- I mean, it's possible, but</p> <p>15 I've cited one -- but I don't think you're</p> <p>16 going to find, generally, documents that say,</p> <p>17 the reason why we are doing this is to</p> <p>18 promote the well being of our conspiracy.</p> <p>19 I mean, defendants aren't going to</p> <p>20 put something like that in writing. So what</p> <p>21 we have to do instead is we have to look at</p> <p>22 the quantitative evidence of the pricing,</p> <p>23 which I've done, and see if there was an</p> <p>24 unexplained price hike around the time the</p> <p>25 challenged conduct. And then we look at</p>	<p style="text-align: right;">Page 267</p> <p>1 A. Okay.</p> <p>2 Q. And so the first question is:</p> <p>3 What's the expected sign for the price of</p> <p>4 pork substitutes, i.e., beef -- the beef,</p> <p>5 chicken price index?</p> <p>6 A. Positive.</p> <p>7 Q. And why is that?</p> <p>8 A. That as the price of a week</p> <p>9 substitute goes up, the demand for pork</p> <p>10 should go up as well, and that would put</p> <p>11 upward pressure on prices.</p> <p>12 Q. If we looked at Paragraph 192 and</p> <p>13 Table 23, does it appear that you have a</p> <p>14 negative sign on the beef, chicken price</p> <p>15 index?</p> <p>16 A. I think you just pointed me to</p> <p>17 the -- I'm on Paragraph 160. Do you want me</p> <p>18 to change paragraphs?</p> <p>19 Q. Yeah. Go ahead and look at</p> <p>20 Table 23, which is attached to 192.</p> <p>21 A. Sorry. Page 193?</p> <p>22 Q. Paragraph 192.</p> <p>23 A. Paragraph 192. I'm heading there.</p> <p>24 Okay. I'm in Paragraph 192.</p> <p>25 Q. And do you have a negative sign on</p>
<p style="text-align: right;">Page 266</p> <p>1 record evidence that's consistent with the</p> <p>2 cartel and meets the economic criteria.</p> <p>3 But I can tell you that I'm not</p> <p>4 going to make a conclusion based exclusively</p> <p>5 on the record evidence that I've looked at</p> <p>6 under the qualitative criteria. All the</p> <p>7 qualitative criteria can do for an economist</p> <p>8 is kind of point in that direction or to show</p> <p>9 that the hypothesis -- the anticompetitive</p> <p>10 hypothesis is plausible.</p> <p>11 And then I go out and I test the</p> <p>12 hypothesis empirically, using the</p> <p>13 quantitative methods. It's the combination</p> <p>14 of the two. That allows me to make the</p> <p>15 inference that I do that this -- this conduct</p> <p>16 appears to be anticompetitive.</p> <p>17 Q. Why don't you turn to 160.</p> <p>18 A. Page 160?</p> <p>19 Q. I am sorry. Paragraph 160 in your</p> <p>20 report.</p> <p>21 A. Okay.</p> <p>22 Q. I will get there, too. Not that</p> <p>23 I'm looking to quote it, but I just want to</p> <p>24 orient you to what I am -- some of the</p> <p>25 questions are directed.</p>	<p style="text-align: right;">Page 268</p> <p>1 the beef, chicken price index for your belly</p> <p>2 by cut overcharge regression?</p> <p>3 A. You can't see that from Table 23.</p> <p>4 Q. Do you know whether you do?</p> <p>5 A. No, I don't know whether I do.</p> <p>6 Q. In your mind, the sign should be</p> <p>7 positive, in any case?</p> <p>8 A. It should be positive. But</p> <p>9 sometimes the signs don't work out the way</p> <p>10 you expect. But you're telling me for a</p> <p>11 particular -- what did you think the sign was</p> <p>12 negative for the belly?</p> <p>13 Q. Yeah. The beef, chicken price</p> <p>14 index --</p> <p>15 A. I know. But for which --</p> <p>16 Q. -- for the belly -- for the belly</p> <p>17 by cut overcharge regression.</p> <p>18 A. Yeah. I would have to look at the</p> <p>19 coefficients, but I would note that the</p> <p>20 belly, you know, accounts for the 3 percent</p> <p>21 of the sales -- defendant sales, but it is --</p> <p>22 you know, I will leave it at that. I don't</p> <p>23 know that it has the wrong sign.</p> <p>24 Q. Okay. And how about your bacon by</p> <p>25 cut overcharge regression? Do you know what</p>

<p style="text-align: right;">Page 269</p> <p>1 the sign was on that?</p> <p>2 A. On the --</p> <p>3 (Simultaneous unreportable</p> <p>4 crosstalk.)</p> <p>5 Q. If you don't, then I guess I would</p> <p>6 take what you would expect it to be.</p> <p>7 A. I would expect it to be positive,</p> <p>8 yes.</p> <p>9 Q. Would you -- I mean, sitting here</p> <p>10 today -- I'm not trying to put you on the</p> <p>11 spot, but would you think it was an error if</p> <p>12 it was negative?</p> <p>13 A. Oh, no. Oh, no. No, no, no.</p> <p>14 This happens all the time in econometrics,</p> <p>15 that you do a slice of the data for some</p> <p>16 subset of the cuts, and one of your 20</p> <p>17 control variables shows the wrong sign. I</p> <p>18 mean, does that cause you to lose faith in</p> <p>19 the model? Absolutely not.</p> <p>20 Q. And can you give any sort of</p> <p>21 description at what point you would start to</p> <p>22 have concerns about the model if it had</p> <p>23 unexpected results like that?</p> <p>24 A. No. I think that -- I think that</p> <p>25 we would evaluate the model as -- from</p>	<p style="text-align: right;">Page 271</p> <p>1 cite to Professor Wooldridge quite a bit as</p> <p>2 an authority on econometrics.</p> <p>3 Who is -- who is Professor</p> <p>4 Wooldridge, and why do you view him as</p> <p>5 authoritative?</p> <p>6 A. Well, he has one of the seminal</p> <p>7 textbooks on econometrics, and I've just been</p> <p>8 using it for a big portion of my career, and</p> <p>9 I think that even in grad school, it may have</p> <p>10 been the textbook that was used.</p> <p>11 Q. And do you accept him as</p> <p>12 authoritative on how to do econometrics?</p> <p>13 A. I do. I accept that textbook as</p> <p>14 being authoritative, yes.</p> <p>15 Q. What's the expected sign for GDP</p> <p>16 per capita? Again, if you -- you could use</p> <p>17 Paragraph 160 as a reference point, if it's</p> <p>18 helpful.</p> <p>19 A. It should be positive.</p> <p>20 Q. And why is that?</p> <p>21 A. That all things equal, an increase</p> <p>22 in income would put upward pressure on prices</p> <p>23 in the relevant market.</p> <p>24 Q. Okay. And how about the expected</p> <p>25 sign for hog costs?</p>
<p style="text-align: right;">Page 270</p> <p>1 Table 12 on Page 125. This is across all</p> <p>2 cuts and controlling for the cut type, you</p> <p>3 know, in the fixed effects. I've got</p> <p>4 processor product and then processor product</p> <p>5 customer.</p> <p>6 And there's where, I think, we</p> <p>7 would make an evaluation that if we had a</p> <p>8 variable -- let's just assume that -- that</p> <p>9 beef, chicken index entered this model as a</p> <p>10 negative consistently. That would -- that</p> <p>11 would suggest to me that I might not be</p> <p>12 measuring the beef, chicken index correctly.</p> <p>13 But the fact that it enters</p> <p>14 positively and statistically significant in</p> <p>15 this general equation gives me confidence</p> <p>16 that, you know, it's the right variable --</p> <p>17 it's a good variable to use.</p> <p>18 And that for a separate cut it</p> <p>19 might change signs does not -- does not cause</p> <p>20 me to lose any faith at all in those kind of</p> <p>21 tire-kicking exercises to make sure that</p> <p>22 no -- no cut was immunized from the</p> <p>23 challenged conduct.</p> <p>24 Q. While we are talking about how to</p> <p>25 evaluate econometric models, I note that you</p>	<p style="text-align: right;">Page 272</p> <p>1 A. Positive.</p> <p>2 Q. And why is that?</p> <p>3 A. Well, these costs eventually have</p> <p>4 to be recovered in the price in the relevant</p> <p>5 market. So to the extent these hog costs go,</p> <p>6 it's going to put upward pressure on the</p> <p>7 prices in the relevant market.</p> <p>8 Q. And would it undermine your</p> <p>9 confidence and the reliability of your model</p> <p>10 if it coefficient for hog cost is negative</p> <p>11 and not statistically significant?</p> <p>12 A. In one of these special cuts, no</p> <p>13 pun intended, to test whether any defendant</p> <p>14 or cut escaped impact, no.</p> <p>15 Q. Why not?</p> <p>16 A. Because these -- these are being</p> <p>17 designed for different purpose. I mean,</p> <p>18 Table 12 is the model that I'm offering.</p> <p>19 These other -- these other models are tests</p> <p>20 to see whether defendants somehow can't be</p> <p>21 shown to have inflated prices or a particular</p> <p>22 cut can't be shown to have -- to have</p> <p>23 experienced a price increase.</p> <p>24 It's -- when you do selective</p> <p>25 slices of the data this way, it's not that</p>

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1 surprising that the sign on a control
 2 variable and one of the specifications may
 3 flip unexpectedly.
 4 Q. And what's your expected sign for
 5 the COVID control?
 6 You know, I should help -- help
 7 orient you. You can look at Paragraph 156.
 8 A. Okay. So there's a -- there's a
 9 supply story that could be told for COVID,
 10 which is that to the extent that COVID
 11 creates dislocations in supply because, for
 12 example, it's hard to staff processing plants
 13 because people are getting sick, that could
 14 be associated with the increase of prices.
 15 Q. So would you expect the sign on
 16 that COVID variable to be positive?
 17 A. Yes, I would, and it is in
 18 Table 12. It's positive.
 19 Q. And expected to be statistically
 20 significant?
 21 A. And it is always in Table 12.
 22 Q. And would it -- does it cause you
 23 any trouble if some of the cuts -- specific
 24 cuts like the rib cut for overcharge
 25 regression for the COVID coefficient is

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1 negative?
 2 A. No.
 3 Q. And why not?
 4 A. Because anything can happen when
 5 you go into these selective cuts. I mean,
 6 you're losing a bunch of observations, and,
 7 you know, COVID may have affected these --
 8 these products different than others.
 9 Q. There's a lot of factors that
 10 impact the price of any given primal, right?
 11 MR. RISSMAN: Object to form.
 12 A. I think that in the -- in the
 13 models that you have seen, kind of the
 14 sensitivity models that you're referring to
 15 towards the end of the report, I allowed for
 16 the coefficients on all the parameters to
 17 vary for each cut and for each defendant.
 18 And, again, if you were inclined
 19 not to allow them to vary, there's a very
 20 straightforward econometric technique to
 21 constrain all the parameters to be the same
 22 across the cuts and across the defendants and
 23 just to, what we call interact the conduct
 24 variable with defendant dummies or with cut
 25 dummies, and we could -- we could perform

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1 similar tests.
 2 BY MR. COLEMAN:
 3 Q. Did you view it as important to
 4 run separate overcharge models by primal cut?
 5 A. Yeah, I did think it was
 6 important. I wanted to -- to run to ground
 7 the possibility that a certain type of primal
 8 cut escaped impact, and I found the opposite,
 9 that all of these cuts had prices that were
 10 inflated that were trivial to the challenged
 11 conduct.
 12 Q. And what sensitivities did you run
 13 outside of the four main models?
 14 A. You mean, the five different
 15 subgroups in Table 23?
 16 Q. Yeah.
 17 A. So I did -- I did one by
 18 defendant. I did defendant-specific models
 19 as well.
 20 Q. Why was it important for you to do
 21 that, in your mind?
 22 A. I think that we just want to -- we
 23 just want to make sure that no defendant was
 24 deviating from the pricing patterns that we
 25 observed for the rest of the defendants.

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1 Q. And did you run separate
 2 overcharge models by direct purchaser type?
 3 A. I did not.
 4 Q. Why not?
 5 A. I don't think there's good either
 6 economic basis for doing it or econometric
 7 basis for doing it. You know, you could --
 8 you're going to lose so much efficiency and
 9 explanatory power by shrinking the data sets,
 10 just that of one direct, depending on which
 11 direct we are looking at.
 12 There's really no economic theory
 13 that would suggest why one direct purchaser
 14 was somehow immunized from the harm that came
 15 from the challenged conduct. Just there's
 16 a -- there's a lot of reasons that that's not
 17 what you do. And then I'm referencing the
 18 reference manual and other econometric
 19 textbooks, and none of them would -- would
 20 suggest running separate regressions by
 21 customer. It's just not done.
 22 Q. And did you say -- did you say
 23 direct purchaser type or by direct purchaser?
 24 A. I said direct purchaser type. And
 25 what I mean by that is, you understand

<p style="text-align: right;">Page 277</p> <p>1 there's a difference between a large grocery 2 retailer that buys direct versus a food 3 service distributor versus a wholesaler or 4 broker. 5 Q. We could come up with different 6 categories of direct purchasers, right? 7 A. Right. And I'm sorry. I 8 interpreted your question to mean individual 9 direct purchasers. Do you want me to. Can 10 I -- I think we were talking past each other. 11 Q. Yeah. You can clarify the record. 12 A. Okay. So I did in Table 25 run 13 separate models for each subgroup of direct 14 purchaser type. I interpreted your question 15 to mean would I run a separate regression for 16 a given direct purchaser, and the answer is 17 no. 18 Q. And why did you do that? 19 A. So why did I present Table 25? 20 Q. Yes. 21 A. Yeah. So for 25, I wanted to make 22 sure that there was no large grouping of 23 direct purchasers, you know, by type that 24 somehow escaped antitrust impacts. 25 Q. Did you run an overcharge model</p>	<p style="text-align: right;">Page 279</p> <p>1 and same patterns. 2 Q. And did you run a model without 3 the -- what you described as the lingering 4 effects period, I believe 156? 5 A. I did do one sensitivity in which 6 I dropped the post -- the after period, if 7 that's what you're asking about. 8 Q. Yes. 9 A. Yes, I did. 10 Q. And explain why you did that. 11 A. I wanted to make sure that -- to 12 the extent that the inclusion of the after 13 period was driving the conduct coefficient, I 14 wanted to make sure it wasn't. So the 15 simplest way to do that was just to remove 16 those data. 17 And I found, sure enough, that the 18 effect is still positive and statistically 19 significant, albeit different, but it is 20 still positive and statistically significant. 21 Q. So if we go to Paragraph 158. 22 A. Okay. 23 Q. It says in Model 2, Table 12, 24 Column 2, you used a processor-product fixed 25 effects to hold constant individual product</p>
<p style="text-align: right;">Page 278</p> <p>1 based on USDA prices? 2 A. I did. 3 Q. And I think I refer you to 4 Table 14. 5 A. Do you mind telling me the page? 6 Q. Oh, sorry. I want to say 164 -- 7 Paragraph 164. 8 A. Okay. 9 Q. So coming back to the -- the 10 question was just whether you ran an 11 overcharged model using USDA prices? 12 A. And the answer is yes. 13 Q. And can you explain why you did 14 that? 15 A. It was another sensitivity test. 16 We just wanted to make sure that the patterns 17 that we were detecting and the correlations 18 we were detecting in the defendant data would 19 also be seen in the USDA data. 20 Now, the reason why we could do 21 this is because the defendants represent 22 something on the order of 80 percent of the 23 marketplace, and so that gave me confidence 24 that we can look at USDA prices -- wholesale 25 prices writ large to study the same effects</p>	<p style="text-align: right;">Page 280</p> <p>1 from each defendant. In Model 3, you used a 2 processor-product, customer-type fixed 3 effects, which additionally holds the 4 constant the type of direct purchaser. 5 A. Yes. 6 Q. Do you see that? 7 A. Yes. 8 Q. Can you explain what a 9 processor-product fixed effect is? 10 A. Sure. So now we are giving more 11 information to the model, right. Now we are 12 telling the model, when you're looking at the 13 given transaction, I want you to allow for 14 the fact that if it comes from a particular 15 processor and it covers a particular cut, 16 that that could explain why the price is what 17 it is, whereas in the prior model before you 18 put these fixed effects in, the computer 19 doesn't know that information. 20 Q. And did you include processor and 21 product fixed effects? 22 A. The combination. So -- so for the 23 same product type, you know, you get two 24 different dummies depending upon who the 25 processor was.</p>

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1 Q. And did you also include customer
2 ID fixed effects?
3 A. Yes.
4 Q. And why did you do that?
5 A. Because it's possible that a
6 certain customer, that is, a certain direct
7 purchaser in the data has a special effect on
8 pricing. We want to be able to control for
9 that if it happens.
10 Q. And what's on a customer side,
11 looking at the defendant's side, why is it
12 important to account for the particular
13 defendant?
14 A. Well, we do. In that -- in that
15 fixed effect, it's the combination of the
16 processor product and customer ID that gets
17 its own dummy verdict. So we're controlling
18 for both sides of the transaction, the seller
19 and the buyer, as well as the cut involved.
20 Q. And that reflects the reality that
21 different defendants may have different
22 variations of the product or different brands
23 that could command different prices, right?
24 A. Correct. But you asked me about
25 this last one that brought in the customer

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1 ID, and you left out -- and the question,
2 just to be -- just to be complete is that
3 it's conceivable that a given customer is
4 able to push back on price increases because
5 of countervailing power, and to the extent
6 that that happens, you know, we want to be
7 able to control for that.
8 Q. Yeah. You want to control for
9 both sides of the equation, the defendant on
10 the one hand or the customer -- the defendant
11 or, slash, supplier on the one hand and
12 customer on the other?
13 A. Correct.
14 Q. In Paragraph 155 -- so apologies
15 for bouncing around, but that's where we are
16 at now -- you note that you added a linear
17 time trend to control for any general changes
18 that occurred over time such as technological
19 or efficiency increases, which may also have
20 had an effect on pork prices.
21 Can you explain why you did that?
22 A. Yeah. This is fairly standard.
23 It's just any secular trend that's unfolding
24 in a linear fashion could have an effect in
25 prices, and the time trend would pick that

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1 up. We talked about exports, and I think you
2 showed me another series that looked fairly
3 linear over time, and anything -- anything
4 that is unfolding in a linear fashion could
5 be picked up in the time travel.
6 Q. So you mentioned technological or
7 efficiency increases. Anything specific
8 along those lines come to mind?
9 It's not a test. If you know, you
10 know. If you don't --
11 A. We talked earlier today about
12 efficiency in terms of -- you know, I think
13 we talked about the ability to produce more
14 piglets, you know, given a certain -- certain
15 number of inputs. And so if there's a
16 technological innovation that is unfolding in
17 a linear fashion such as that, you know, it
18 could be -- it could be captured in the time
19 trend.
20 Q. And why wouldn't those kinds of
21 technological or efficiency trends be
22 captured by the plant cost variable?
23 A. Oh, they very well may be. So we
24 just want to make sure that to the extent any
25 of our other control variables are not

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1 capturing things that shift the supply or
2 demand curve around and that are correlated
3 with time, we are going to pick it up in the
4 time trend.
5 Q. So bouncing back up to the fixed
6 effects. I meant to ask you about why the
7 product fixed effect is important, or why you
8 did it.
9 A. Yeah.
10 Q. Can you explain?
11 A. Yeah. Because knowing -- telling
12 the computer the nature of the product could
13 be highly helpful in predicting what the
14 price was for the transaction that you're
15 looking at.
16 Q. And why is that?
17 A. Because different products
18 could -- could command different premiums
19 based on what's being sold. You know, I --
20 you go to a restaurant, you will see pork
21 chops as being a high-end cut that's served,
22 you know, in a menu alongside steaks, and
23 it's conceivable that as a result, the loin
24 or different cuts that contain the meat of a
25 pork chop realize premium in the relevant

<p style="text-align: right;">Page 285</p> <p>1 market.</p> <p>2 Q. I think we also mentioned brand or</p> <p>3 label or that kind of thing is -- packaging</p> <p>4 product enhancements as -- and other things</p> <p>5 that might affect the product, right?</p> <p>6 A. It's possible that -- that the</p> <p>7 processor ID could affect pricing. My</p> <p>8 opinion is, you know, that these products are</p> <p>9 largely homogeneous, but bringing the</p> <p>10 processor ID at least allows for the</p> <p>11 possibility that the processor commands some</p> <p>12 kind of premium or discount relative to</p> <p>13 average prices.</p> <p>14 Q. So when you control for hog costs,</p> <p>15 that's -- we had some questions and answers</p> <p>16 about that this morning. I think we</p> <p>17 ascertained that you control for hog costs by</p> <p>18 using a data series provided by Iowa State</p> <p>19 University; is that right?</p> <p>20 A. Correct.</p> <p>21 Q. And I could direct you to</p> <p>22 Paragraph 153, if that's helpful.</p> <p>23 A. Yes.</p> <p>24 Q. But I'm specifically interested in</p> <p>25 what -- what you know about what costs are</p>	<p style="text-align: right;">Page 287</p> <p>1 productivity or corn prices or soybean</p> <p>2 prices, et cetera, in generating that data</p> <p>3 set?</p> <p>4 A. No, I don't -- I don't know of the</p> <p>5 assumptions, but certainly productivity</p> <p>6 would -- could influence these costs. So I</p> <p>7 would hope that those sorts of productivity</p> <p>8 changes would already be impounded in this</p> <p>9 price that we are looking at.</p> <p>10 Q. Coming back to your model and how</p> <p>11 you tested for impact and a comparative</p> <p>12 impact.</p> <p>13 Did you always subtract the same</p> <p>14 overcharge percentage from the predicted</p> <p>15 price to arrive at the but-for price?</p> <p>16 A. No. No. So to get the but-for</p> <p>17 price during the conduct period, I take all</p> <p>18 the right-hand side variables in the model,</p> <p>19 all right, and I use those values for that</p> <p>20 transaction, and I predict using all of the</p> <p>21 coefficients in the model, not just the --</p> <p>22 not just the conduct parameter, but I use all</p> <p>23 of the coefficients to make a prediction of</p> <p>24 what the price would have been in the absence</p> <p>25 of the challenged conduct, and then I</p>
<p style="text-align: right;">Page 286</p> <p>1 captured by that variable.</p> <p>2 A. So there's a description of my</p> <p>3 understanding of what's going into the</p> <p>4 variable, and it's right in the middle of</p> <p>5 153, and it says: The change in cost of</p> <p>6 animal feed composed of ingredients such as</p> <p>7 the cost of corn and soybean meal as well as</p> <p>8 nonfeed costs across time for a rank-and-file</p> <p>9 Iowa producer.</p> <p>10 Q. And do you know -- do you know</p> <p>11 what the percentage of costs for raising a</p> <p>12 hog is attributable to feed?</p> <p>13 A. No, no.</p> <p>14 Q. Do you know whether that cost</p> <p>15 includes labor?</p> <p>16 A. The sentence above suggests that</p> <p>17 it is, and I would have to -- it's just been</p> <p>18 too long since I went back through this. But</p> <p>19 it says here that the average cost of</p> <p>20 producing a 270-pound finished pig. And so I</p> <p>21 think labor could enter in as the nonfeed</p> <p>22 cost, but I would just want to go back and</p> <p>23 check that out.</p> <p>24 Q. Do you know whether Iowa State</p> <p>25 makes any assumptions regarding sow</p>	<p style="text-align: right;">Page 288</p> <p>1 subtract what the actual price was.</p> <p>2 And it's that difference between</p> <p>3 the predicted conditional on all of the</p> <p>4 attributes and all of the parameters in the</p> <p>5 model minus the actual. So I am not just</p> <p>6 moving everything up by -- bu the conduct</p> <p>7 parameter.</p> <p>8 Q. So you -- you do have a</p> <p>9 calculation of a predicted competitive price,</p> <p>10 right?</p> <p>11 A. For each transaction, I can</p> <p>12 predict what the price would have been in the</p> <p>13 but-for world given the parameters that I've</p> <p>14 estimated in the model and given all of the</p> <p>15 right-hand side variables of that particular</p> <p>16 transaction.</p> <p>17 Q. Is it always the same percentage</p> <p>18 across transactions?</p> <p>19 A. No. You mean, percentage</p> <p>20 inflation? No. In fact, you can tell by the</p> <p>21 99-point-something percentage, there's going</p> <p>22 to be some transactions that appear to have</p> <p>23 escaped injury. So if what you were saying</p> <p>24 were true, and everything just automatically</p> <p>25 moves by the same percentage, my test would</p>

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1 present a hundred percent impact, and it does
2 not.

3 Q. Is it true that the percent
4 difference between the predicted price and
5 your predicted competitive price is always
6 12.8 percent?

7 A. Well, I don't -- I don't perform
8 that. I take the predicted price in the
9 but-for world, which I would call the -- is
10 the competitive price, and I compare it to
11 the actual price. And that difference is not
12 always 12.4 percent.

13 On average, it's 12.4 percent, but
14 it's not always 12.4 percent. And, in fact,
15 just to repeat this point, sometimes the
16 prediction comes in above the actual price in
17 which that transaction by this test would
18 appear to have escaped injury, and that
19 happens in fewer than, you know, 1 percent of
20 the transactions, but it does happen.

21 Q. I'm interested in -- I mean, you
22 are aware that defendants produced data on a
23 wide variety of pork products in this case.
24 Some you even included in your analysis, and
25 some you didn't, right?

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1 A. Right. I eliminated anything that
2 did not meet the class definition before
3 running the test.

4 Q. And how did you come up with that
5 class definition?

6 A. It was given to me by counsel.

7 Q. So do you have any economic
8 analysis to determine what was -- what
9 products should be in or out of the class
10 products?

11 A. I'm not -- no one asked me what
12 should be in or out of the class. That's up
13 to the plaintiffs. What I -- I do an
14 analysis of what should be in or out of
15 product market. And in my opinion, the
16 product market is larger than the class
17 products, but you would have to ask counsel
18 as to why they eliminated certain products
19 from the class. That was not my decision.

20 Q. But in any case, it was your
21 intention to limit your analysis to the
22 products at issue in the class?

23 A. I mean, I have to. I understand
24 that's my instructions. My assignment is to
25 estimate -- to show impact and to estimate

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1 aggregate damages associated with the class
2 product. So if I were to include products in
3 there that were not in the class, I would be
4 overstating damages.

5 Q. In your pass-through analysis --
6 and just for point of reference, I could
7 direct you to Paragraph 181.

8 A. Give me one second.

9 Q. Yep.

10 A. Okay.

11 Q. Did you account for the -- for
12 seasonality?

13 A. Well, I know I accounted for
14 seasonality in the -- in the overcharge
15 regression to directs, but let me see if I
16 got the control -- the capture seasonality in
17 the pass-through.

18 So I'm not seeing it here. My
19 recollection is that we have already
20 accounted for seasonality in Stage 1, which
21 was to get to the overcharge to the directs.
22 But we -- I don't think we account for
23 seasonality in the pass-through regressions.
24 That would be something that would be fairly
25 trivial to do, and would also be common to

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1 the class.

2 Q. Do you account for the cut or type
3 of pork?

4 A. We are accounting for -- and to
5 the extent we are matching up the wholesale
6 and the retail price of the same cut, that
7 is, we are not mixing apples with oranges.
8 You know, we are taking the price paid by the
9 distributor, for example, and comparing it to
10 the price -- let's see how we do this -- paid
11 for the same cut, that is, what the
12 distributor paid for and sold the same cut,
13 right.

14 So in that sense, we are
15 controlling for the cut. We are not mixing
16 apples and oranges. But if you're asking do
17 we allow for a different pass-through by cut,
18 I think the answer is no.

19 Q. And does your price measure price
20 per pound or price per unit?

21 A. I think it's units, but it's
22 something I want to go back and check. I
23 think we are doing it in units.

24 Q. Do you have an answer, or are you
25 still looking?

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1 A. Oh. Sorry. I was done.
 2 Q. I was thinking you were confirming
 3 whether you --
 4 A. No. As I'm thinking about it, I
 5 don't think that it would affect -- that it
 6 would have any effect on the pass-through
 7 rates as long as we are doing apples to
 8 apples. So you'd get the same pass-through
 9 rate if you were doing -- you know, it's a
 10 cut versus a cut.
 11 And I can go during a break and
 12 check if it's units or pounds, but I don't
 13 see why that would make a difference.
 14 Q. Well, if it's price per unit, the
 15 products -- pork products can come in
 16 different size packages, right?
 17 A. Right. And so, you know, I know
 18 that one of the challenges here was making
 19 sure that we got comparable units on the buy
 20 side and on the sell side for given a direct
 21 purchaser. And we think that when you see
 22 very skewed ratios of prices of cost that
 23 would suggest that you have a mismatch on the
 24 unit.
 25 So I'm fairly confident -- I can

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1 go back and check with the researcher -- that
 2 we did do this in units.
 3 Q. Does brand matter to the
 4 pass-through analysis?
 5 A. Brand of the retailer?
 6 Q. Of the product being sold.
 7 A. No, I don't think it would. These
 8 are largely homogenous. You could -- if you
 9 were so inclined, you could estimate separate
 10 pass-through rates by -- you're saying for --
 11 based on the source of the product, or you
 12 could -- you could control for the source.
 13 But that's not, you know, what we did.
 14 We were looking at pass-through
 15 from the perspective of the -- of the direct
 16 purchaser.
 17 Q. For example, did you indicate or
 18 examine the possibility of differential
 19 pass-through rates for branded versus
 20 private-label products?
 21 A. Oh, for a given retailer, we did
 22 not.
 23 Q. Did you account for any product
 24 characteristics other than -- well,
 25 seasonality we mentioned and the cut/type of

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1 pork?
 2 A. Sitting here, I don't think so,
 3 but that's something I can check as to what
 4 controls, if any, were -- were included on
 5 the right-hand side of these regressions. I
 6 just performed these too long ago, but I
 7 can't tell you which -- which controls are
 8 included right now.
 9 Q. And how many pass-through rates
 10 did you estimate for each intermediary
 11 seller?
 12 A. One.
 13 So when you say "intermediary
 14 seller," you can look at Table 21. I've got
 15 a pass-through rate for 7-Eleven, Aldi,
 16 Amazon Fresh, and it goes down, and then I do
 17 the same thing for the distributors.
 18 Q. So did you allow the pass-through
 19 rate to vary over time?
 20 A. No. I just estimated one
 21 pass-through rate across the data set.
 22 Q. Do you allow the pass-through rate
 23 to vary by cut or by defendant?
 24 A. Still no. I mean, I think I told
 25 you that I didn't do it by defendant earlier.

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1 And by cut, I think that's still no. Same
 2 answer. I didn't do separate pass-through
 3 rates by cut.
 4 Q. Did you evaluate any products sold
 5 by nondefendant packers?
 6 A. Let's see. Are you asking in my
 7 pass-through analysis in particular or just
 8 in general?
 9 Q. Yes, yes. Sorry. In your
 10 pass-through analysis.
 11 A. I don't think so because we were
 12 matching with defendants' data. But that's
 13 something that I could -- you know, I could
 14 run to ground. I think it was just for the
 15 pass-through rate that could be matched with
 16 defendants' data.
 17 Q. Did you study whether retailers
 18 could -- retailers' pass-through or cost
 19 changes when they're running a promotion?
 20 A. I allowed for -- I allowed for
 21 promotions to be in the data, yes.
 22 Q. Or whether retailers' pass-through
 23 cost charges for all -- all brands?
 24 A. Well, I don't provide separate
 25 pass-throughs for these retail stores by

<p style="text-align: right;">Page 297</p> <p>1 brands. I've got one pass-through for the</p> <p>2 retail.</p> <p>3 Q. So that same answer would hold</p> <p>4 true for changes -- or differences at</p> <p>5 different stores or regions or distribution</p> <p>6 centers or that kind of thing?</p> <p>7 A. I mean, I think it's fair that</p> <p>8 right now in Tables 21 and 22, that's just</p> <p>9 one for the -- for the direct purchaser.</p> <p>10 Q. And it's your -- in terms of the</p> <p>11 level of granularity, the model focuses on</p> <p>12 intermediary, monthly level and at a product</p> <p>13 level, right?</p> <p>14 A. Correct.</p> <p>15 MR. COLEMAN: Let's take a quick</p> <p>16 break here. I'm not even sure how</p> <p>17 long we have been going.</p> <p>18 THE VIDEOGRAPHER: The time is</p> <p>19 4:43 p.m. We are off the record.</p> <p>20 (A brief recess was held from</p> <p>21 4:43 p.m. to 4:56 p.m.)</p> <p>22 THE VIDEOGRAPHER: The time is</p> <p>23 4:56 p.m. We are back on the record.</p> <p>24 BY MR. COLEMAN:</p> <p>25 Q. Dr. Singer, I understand you</p>	<p style="text-align: right;">Page 299</p> <p>1 lined up on a per-unit basis.</p> <p>2 Q. So what was it that you were</p> <p>3 focused on to do that match -- the product</p> <p>4 match?</p> <p>5 A. Was I focused on?</p> <p>6 Q. Yeah. How did you -- what was the</p> <p>7 key criteria that matched products?</p> <p>8 A. We just wanted to make sure that</p> <p>9 we were talking about the same product that</p> <p>10 was being bought and sold because that's --</p> <p>11 you know, we wanted to trace what a cost</p> <p>12 increase would be to a direct into its price</p> <p>13 that it charged in retail.</p> <p>14 Q. Okay. Got it. Yeah, yeah, yeah.</p> <p>15 A. So many times, you had asked me if</p> <p>16 we did the match. The answer is that in many</p> <p>17 times, the third party, either distributor or</p> <p>18 retailer did the match for us. And other</p> <p>19 times, we had to do the match. But what --</p> <p>20 what invariably was taking place was matching</p> <p>21 along SKU.</p> <p>22 So the SKU would be the -- what</p> <p>23 would identify in the database, the</p> <p>24 particular cut that was purchased and turned</p> <p>25 around and resold by -- by the direct.</p>
<p style="text-align: right;">Page 298</p> <p>1 wanted to clarify some previous testimony.</p> <p>2 A. There's just two things where I</p> <p>3 think I either got tired or misstated it.</p> <p>4 Let me just clear it up.</p> <p>5 On Paragraph 181, I talk about the</p> <p>6 controls that went into the pass-through</p> <p>7 model, and you will see that I controlled for</p> <p>8 product category and by months, seasonality.</p> <p>9 So that's in Paragraph 181, and you had asked</p> <p>10 me earlier what controls went into the</p> <p>11 pass-through regression. I told you I didn't</p> <p>12 know. I just couldn't do it by memory.</p> <p>13 And the second thing that I wanted</p> <p>14 to clear up, is you asked me about how the</p> <p>15 matching was done, and the matching -- I said</p> <p>16 it was -- I thought it was per unit. I think</p> <p>17 it was both, per unit and per pound, and the</p> <p>18 reason why it happened this way is that in</p> <p>19 many occasions, we -- the direct purchaser</p> <p>20 did the matching for us, and it was typically</p> <p>21 matching on SKU, and so I think the best way</p> <p>22 to answer your prior question was not by</p> <p>23 pound or by unit, but instead by SKU, and</p> <p>24 that resulted in some matches being lined up</p> <p>25 on a per-pound basis and other matches being</p>	<p style="text-align: right;">Page 300</p> <p>1 Q. Okay. Anything else?</p> <p>2 A. That's it.</p> <p>3 Q. Turning back to Agri Stats. I</p> <p>4 believe your testimony is that Agri Stats was</p> <p>5 central to the conspiracy that you understood</p> <p>6 to have existed between 2009 and 2018, right?</p> <p>7 A. Central to the plaintiff's theory</p> <p>8 of harm or alleged period of the challenged</p> <p>9 conduct. That's correct.</p> <p>10 Q. In a -- in Paragraph 136 of your</p> <p>11 report, for example, you say that collection</p> <p>12 and the dissemination of competitively</p> <p>13 sensitive information is the day-to-day work</p> <p>14 of a cartel, right?</p> <p>15 A. Yes.</p> <p>16 Q. And you cite quite a bit of</p> <p>17 literature on cartel conduct. And I gather</p> <p>18 that participants in a cartel, one of the key</p> <p>19 things they need to do is monitor compliance</p> <p>20 with a cartel agreement; is that right?</p> <p>21 A. Correct.</p> <p>22 Q. And your -- your opinion is that</p> <p>23 Agri Stats was consistent with that</p> <p>24 monitoring mechanism that a cartel needs for</p> <p>25 stability over time, right?</p>

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1 A. Correct.

2 Q. And one of the problems that
3 cartels have is the constant incentive for
4 individual members of the cartel to cheat on
5 the agreement, right?

6 A. Yes.

7 Q. And the monitoring mechanism
8 allows other participants in the cartel to
9 see the cheating and pursue enforcement,
10 right?

11 A. Correct.

12 Q. And so the key thing that
13 monitoring allows for a cartel is to give
14 participants visibility into what each
15 individual firm is doing, whether they're
16 complying with the cartel, and then setting
17 the stage for enforcement of the cartel
18 agreement, right?

19 A. Right.

20 Q. And to have that kind of -- to
21 function as that kind of monitoring
22 mechanism, the participants in the cartel
23 need to monitor the individual firm
24 activities of cartel members, right?

25 A. Correct.

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1 Q. So one thing that I am not seeing
2 in the documents that you have cited is any
3 enforcement mechanism through Agri Stats or
4 otherwise.

5 What do you have in mind as an
6 example of the alleged pork cartel's efforts
7 to enforce the agreement that you think
8 existed?

9 MR. RISSMAN: Object to form.

10 A. So enforcement, of course, is only
11 needed when someone deviates, and so I'm
12 not -- I'm not aware of episodes on which
13 someone deviated and -- and undercut their
14 rival's prices. In fact, what we observed in
15 the record evidence is that Agri Stats was
16 alerting defendants of opportunities to
17 increase the price. And that was generally
18 followed from what I -- what I observed.

19 But I -- you know, one of the
20 prongs that we are trying to -- to evaluate
21 is not enforcement per se but monitoring, and
22 monitoring was -- was the prong that I looked
23 at, and I think that there is pretty good
24 evidence that monitoring, in fact, was made
25 possible by -- by Agri Stats.

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1 BY MR. COLEMAN:

2 Q. Right. So that the reason
3 monitoring is helpful is keep cartel members
4 in line and make sure the agreement is
5 stable, right?

6 A. Yes.

7 Q. And is it your opinion that there
8 are -- that none of cartel members from the
9 2009 to 2018 period deviated from the cartel
10 agreement that is alleged to have existed?

11 A. No. That's not my opinion. I
12 just -- I think that would give us insight
13 into what the enforcement would look like,
14 and I'm just not aware of a particular
15 episode happening.

16 Q. How would we identify an example
17 of deviation from the purported cartel
18 agreement?

19 A. Well, I mean, I think the -- you
20 could -- I'm just -- you know, I'm giving you
21 a hypothetical, but you could see in a report
22 that one participant is coming in
23 consistently below each of its rivals. And
24 then another participant questioning why
25 they're going along, and then the punishment

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1 could take one of two forms.

2 It could be we kick you out of the
3 cartel, or we would retaliate by dropping our
4 own prices. That would be kind of evidence
5 of enforcement that we would look for.

6 Q. And that kind of evidence is
7 something that we don't have here, at least
8 not in your report, right?

9 A. It's not -- I do not think it's in
10 my report. The enforcement when someone
11 deviated, just sitting here, I can't -- I
12 can't think of episodes that I came across.

13 Q. And I also don't see any documents
14 cited in your report in which Agri Stats
15 appears to have any recognition that it's
16 facilitating a cartel?

17 MR. RISSMAN: Object to form.

18 A. I don't think I would agree with
19 that characterization. I think that
20 Agri Stats recognized that it was creating
21 profit making and price increases that
22 wouldn't have otherwise been available
23 without the information, and use that as part
24 of its marketing to induce outsiders to join
25 the club.

<p style="text-align: right;">Page 305</p> <p>1 BY MR. COLEMAN:</p> <p>2 Q. Are you aware of any documents in</p> <p>3 the case in which Agri Stats refers to an</p> <p>4 agreement among the defendants to coordinate</p> <p>5 prices or output?</p> <p>6 A. Well, you know, I imagine that</p> <p>7 Agri Stats wouldn't do something that was so</p> <p>8 blatant and obvious to send up, you know,</p> <p>9 alarm bells like that. I -- I just came off</p> <p>10 of a price-fixing case on capacitors. No one</p> <p>11 ever wrote down, like, let's perpetuate the</p> <p>12 price-fixing agreement. It's just things</p> <p>13 they know not to do.</p> <p>14 In that case, they swapped around</p> <p>15 at these monthly meetings Excel spreadsheets</p> <p>16 that everybody would fill out of their</p> <p>17 current and future prices.</p> <p>18 So I'm not sure that you're going</p> <p>19 to find such explosive and incriminating</p> <p>20 language in a communication because people</p> <p>21 know from their antitrust counsel that they</p> <p>22 couldn't be saying things like that.</p> <p>23 Q. So Agri Stats did the,</p> <p>24 quote/unquote, day-to-day work of a cartel</p> <p>25 for nine years in the period, and yet you're</p>	<p style="text-align: right;">Page 307</p> <p>1 then boost their price. Is that how that</p> <p>2 operates?</p> <p>3 A. The average is important, but of</p> <p>4 course they were getting a lot of more than</p> <p>5 the average here. They were getting</p> <p>6 precisely where they sat on the distribution,</p> <p>7 and so knowing that the granular level down</p> <p>8 to the plant level and knowing where you were</p> <p>9 on that distribution would give a participant</p> <p>10 much more confidence in -- in raising prices</p> <p>11 than if they only knew where they were with</p> <p>12 respect to the average.</p> <p>13 Q. I want to make sure I understand.</p> <p>14 By "distribution," do you mean their ranking</p> <p>15 in the Agri Stats report on --</p> <p>16 A. Correct.</p> <p>17 Q. So in your mind, the key things</p> <p>18 the Agri Stats report provided was, first,</p> <p>19 you get an average price by various products,</p> <p>20 and then you get the defendants -- each</p> <p>21 defendants knows its position with respect to</p> <p>22 not only the average price but its overall</p> <p>23 kind of ranking in the industry; is that</p> <p>24 right?</p> <p>25 A. Not just in the industry. I mean,</p>
<p style="text-align: right;">Page 306</p> <p>1 not aware of any instance in which it was</p> <p>2 referring to an agreement among defendants?</p> <p>3 MR. RISSMAN: Object to form.</p> <p>4 Mischaracterizes his testimony.</p> <p>5 A. Yeah. As an economist, you know,</p> <p>6 I -- I'm not looking for, you know, an</p> <p>7 agreement per se. I'm looking for conduct</p> <p>8 that would facilitate collusive outcomes.</p> <p>9 I'm looking at this through the lens of an</p> <p>10 economist. The economist doesn't use the</p> <p>11 word "agreement" when we're assessing</p> <p>12 anticompetitive effects.</p> <p>13 I want to know could -- could the</p> <p>14 price hikes that were made possible through</p> <p>15 the information-sharing regime, could those</p> <p>16 have been achieved absent the information</p> <p>17 sharing, and I think it would have been very,</p> <p>18 very hard to do that, and that's why I think</p> <p>19 that the information sharing effectuated</p> <p>20 anticompetitive effects.</p> <p>21 BY MR. COLEMAN:</p> <p>22 Q. And one of your opinions is that</p> <p>23 even average prices can have the effect of</p> <p>24 pulling up prices over time as lower priced</p> <p>25 members of the cartel see the average and</p>	<p style="text-align: right;">Page 308</p> <p>1 ranking down to very, very granular product</p> <p>2 levels. Right? The Agri Stats reports</p> <p>3 aren't just giving, you know, industry-level</p> <p>4 price.</p> <p>5 They are giving things down to the</p> <p>6 cut and done to the plant, and so, you know,</p> <p>7 I would submit that if someone wants to come</p> <p>8 in below average but he finds out that he's</p> <p>9 at the very bottom, and he can move up, you</p> <p>10 know, that's a great opportunity to take a</p> <p>11 price increase that may not be available</p> <p>12 absent the information-sharing exchange.</p> <p>13 Q. USDA publishes reports showing the</p> <p>14 average price by primal in -- on an ongoing</p> <p>15 realtime basis in the marketplace, right?</p> <p>16 A. Well, it's at an aggregated level,</p> <p>17 so my understanding is that they're not</p> <p>18 breaking it out by processor, and they are</p> <p>19 not breaking it out by plant. And when you</p> <p>20 say "realtime," I'm sure it comes with a lag,</p> <p>21 and -- and I -- just leave it at that.</p> <p>22 Q. Do you know whether USDA prices</p> <p>23 are more current than Agri Stats' prices that</p> <p>24 are distributed to the defendants?</p> <p>25 A. I don't know. I don't know for a</p>

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1 fact which one is more -- more current.

2 Q. But in any case, the in terms of
3 monitoring and enforcement, the ability to
4 de-anonymize the data, identify who is who is
5 important to the role that Agri Stats played
6 in the purported cartel, right?

7 A. Yes, and would not be available if
8 all you had, say, was the USDA aggregated
9 data. You wouldn't be able to punish, for
10 example, or identify who was cheating on the
11 cartel.

12 Q. Right. And -- yeah. And the
13 difference between Agri Stats and USDA, among
14 others, one thing is you have the opinion
15 that defendants were able to de-anonymize the
16 participants in Agri Stats' reports, right?

17 A. Yes.

18 Q. Did you make any effort to
19 de-anonymize any of the reports to identify
20 who was who in any given report?

21 A. No. I don't think that I, as a
22 third party, would have that capability, but
23 I was convinced that the participants could
24 and, in fact, asked Agri Stats for assistance
25 when they couldn't.

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1 So I feel like that is sufficient.

2 Whether I could do it as an outsider just by
3 looking at a report, I think is irrelevant.
4 It's whether or not the participants could,
5 and I think I've shown a lot of evidence they
6 could.

7 Q. Any understanding as to the
8 mechanism of how the purported de-anonymizing
9 worked?

10 MR. RISSMAN: Objection.
11 Foundation.

12 A. I described the mechanism, but I
13 think that Agri Stats would provide a list of
14 the participants at the top and would give
15 details about the plant that tipped off the
16 other participants as to whose plant it was
17 and where it was.

18 In any event, they were able to
19 figure it out, and they boasted about being
20 able to figure it out. I will leave it at
21 that.

22 BY MR. COLEMAN:

23 Q. Any instance that you're aware of
24 where Hormel attempted to de-anonymize an
25 Agri Stats report?

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1 A. I would have to go into my
2 de-anonymization section and see if there
3 were attempts, successful or unsuccessful, by
4 Hormel. But sitting here, at this late hour,
5 I can't tell you if Hormel was in that
6 section of the report.

7 Q. Do you have any effort by Seaboard
8 to de-anonymize Agri Stats reports?

9 A. I mean, it's the same answer. I
10 would have to go into that section of my
11 report.

12 Q. Did you -- you know, given the
13 importance of de-anonymizing to your theory
14 of how Agri Stats functioned, did you make
15 any effort to check whether all defendants
16 attempted to de-anonymize Agri Stats'
17 reports?

18 A. I think I made some effort in that
19 direction. I mean, I put forward the
20 evidence that I thought was most consistent
21 with the claim. Whether or not I was able to
22 show it for all defendants is another
23 question.

24 I don't know if I did. But that
25 was certainly -- you know, we sought to get

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1 as much data on that question as we could.

2 Q. Do you have any information as to
3 whether Clemens ever attempted to
4 de-anonymize an Agri Stats report?

5 A. It would be the same answer; that
6 I would send you to that section of the
7 report to see if Clemens was there. I would
8 have to say that it would be surprising that
9 some could and some couldn't.

10 I think it would be more of an all
11 or nothing, and I also think that it's part
12 of the marketing to ensnare, you know, future
13 processors into the ring. You would -- it
14 would be weird for Agri Stats to deny that
15 sort of benefit for some members but not
16 others.

17 Q. Yeah. And why would that be
18 surprising if there were some -- some members
19 of Agri Stats or subscribers of Agri Stats
20 that were not able or didn't de-anonymize?

21 A. Because I think that's the
22 fundamental value added that the Agri Stats
23 report is bringing. It's allowing you to
24 find price-making opportunities, price
25 increases that you wouldn't otherwise be able

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1 to find, and the firms needed confidence and
 2 knowing, you know, who was where and where
 3 they ranked.
 4 And it just seems like you would
 5 cut a lot of the value to a prospective
 6 member if you denied them that -- that
 7 luxury.
 8 Q. And I assume that part of that
 9 role that de-anonymizing would play would be
 10 important for the de-anonymizing to be --
 11 well, as you described it, the participants
 12 would need some confidence in the accuracy of
 13 what they -- what they were doing and what
 14 they were seeing, right?
 15 A. I think that's fair. I think that
 16 they have to -- they have to believe what
 17 they're looking at is real data as opposed to
 18 made-up data.
 19 Q. Did you see any documents in which
 20 Agri Stats was trying to ensure that the
 21 participants could de-anonymize their
 22 reports?
 23 A. I recall efforts by certain
 24 defendants complaining to Agri Stats that
 25 they weren't able to do it as easily as they

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1 should and asking for further information.
 2 Q. Yeah. And how did Agri Stats
 3 respond from what you can recollect?
 4 A. I don't know if I -- I don't know
 5 if I -- in each of those occasions, I don't
 6 know if I showed what Agri Stats response
 7 was. I only showed the overture by the
 8 member.
 9 Q. But it would be your expectation,
 10 given the role that Agri Stats was playing,
 11 that it would facilitate de-anonymizing, if
 12 requested by the members; is that right?
 13 A. I think that's fair.
 14 MR. RISSMAN: Form.
 15 BY MR. COLEMAN:
 16 Q. Are you aware of any evidence of a
 17 formative meeting for what we'll call the
 18 Agri Stats pork cartel?
 19 A. A formative meeting?
 20 Q. Right. When did this cartel come
 21 into existence?
 22 MR. RISSMAN: Objection. It
 23 calls for a legal conclusion, and I
 24 will instruct the witness to not
 25 answer and to the extent that he

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1 doesn't have an opinion that's he
 2 offering in this case.
 3 A. Yeah. I mean, I can tell you when
 4 the challenged conduct came into existence
 5 for the complaint, which is in 2009, when
 6 Agri Stats started producing these specific
 7 reports.
 8 And then I think you had a
 9 two-part question for me. I can't remember
 10 what the other --
 11 BY MR. COLEMAN:
 12 Q. Yeah. I'm actually not interested
 13 in your opinion as much as just what evidence
 14 you have seen or reviewed, included in your
 15 report that -- of the formative meeting of
 16 the cartel members to engage in,
 17 quote/unquote, challenged conduct?
 18 MR. RISSMAN: Object to form.
 19 A. I think I detailed some industry
 20 meetings or association meetings that would
 21 have allowed these participants to interact
 22 in person, and I've also, I think, documented
 23 direct communications. I will leave it at
 24 that.
 25

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1 BY MR. COLEMAN:
 2 Q. So there are mediums in which
 3 they -- some of the defendants were --
 4 attended, so they had an opportunity to talk
 5 to one another. That's your testimony?
 6 A. Correct.
 7 Q. Did you see any evidence that they
 8 actually did and discussed an agreement to
 9 engage in the challenged conduct?
 10 A. I don't think I'm privy to what
 11 was discussed at those -- at those meetings.
 12 Q. Do you know whether there was any
 13 indication of what the specific agreement was
 14 as to whether there was an agreement to cut
 15 pork supply by some amount or -- what were
 16 the terms of the agreement, to the best that
 17 you understand it?
 18 MR. RISSMAN: Objection. Calls
 19 for a legal conclusion and lacks
 20 foundation.
 21 A. I think you might be taking the
 22 word "agreement" literally as if they drew up
 23 written documents, and these are the
 24 objections of the cartel, right.
 25 That's not what's in my analysis.

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1 What I'm trying to figure out is whether the
2 conduct using qualitative evidence according
3 to the economic criteria. My quantitative
4 evidence is consistent with the existence of
5 an agreement, but in the abstract, an
6 agreement that -- to raise prices and to
7 reduce domestic output.
8 BY MR. COLEMAN:
9 Q. So you have an opinion that
10 Agri Stats was used -- Agri Stats reports was
11 used to raise prices, right?
12 A. Yes.
13 Q. And do you have any opinion as to
14 whether there was any kind of specific
15 agreement on prices or not to compete based
16 on a specific price in Agri Stats or anything
17 along those lines?
18 Just wanting to understand how you
19 think this mechanism worked?
20 MR. RISSMAN: I'm going to
21 object to form.
22 A. So the mechanism work, as I, you
23 know, spelled it out in my report, is that I
24 think -- I think it's best understood as
25 information exchange, where the information

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1 that was exchanged was competitively
2 sensitive. And that facilitated coordinated
3 decision making with respect to prices and
4 output.
5 BY MR. COLEMAN:
6 Q. Well, you know, defendant could
7 get the information -- I think you even
8 mentioned this, that perhaps in collusion,
9 defendants wouldn't want to exchange
10 information because they might undercut the
11 prices with knowledge of a defendant's
12 prices, right?
13 A. Right. Absent -- absent collusion
14 that if I just volunteered to you that I'm
15 taking my plant capacity down, and we didn't
16 have a, quote/unquote, agreement in place,
17 then you could undercut me by increasing
18 output or stealing my clients or my
19 customers.
20 Q. And the same thing on price,
21 right?
22 A. Correct. So, yeah, committing to
23 raise prices in the absence of an agreement
24 is dangerous to the extent that it would
25 allow a rival who wasn't on the same page to

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1 undercut you.
2 Q. Or a -- I think what you're
3 intending to say is an agreement to exchange
4 pricing information absent the agreement
5 would be dangerous; is that right?
6 A. Well, I mean, something more
7 basic. That sharing of current prices or
8 capacity with rivals in a granular level can
9 facilitate anticompetitive outcomes. I think
10 that's a pretty basic proposition that most
11 economists subscribe to.
12 Q. And do you have -- so I understand
13 that you engage in the economic analysis to
14 kind of quantify the effect of the exchange
15 of information on prices. I'm interested in
16 what understanding you have reached based on
17 your review of the record as to how that
18 mechanism actually worked in practice.
19 Can you provide any more detail
20 how Agri Stats reports were used by
21 individual defendants to coordinate on
22 prices?
23 MR. RISSMAN: I'm going to
24 object to instruct the witness to only
25 answer as to opinions that he's

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1 offered in this case.
2 A. The opinion that I offered in the
3 case -- the analysis I offered shows how
4 defendants were able to exploit the
5 competitively sensitive information that I
6 have provided to identify price increases
7 that were safe to take.
8 And my opinion is that in the
9 absence of that sharing mechanism, it would
10 have been much harder to exploit and to take
11 those -- even learn of those problem max --
12 maximizing profiting opportunities.
13 BY MR. COLEMAN:
14 Q. And did you -- and the -- the
15 Agri Stats sales reports would be the -- in
16 your mind, the key mechanism for that kind of
17 price coordination, right?
18 MR. RISSMAN: Object to form.
19 A. I think they were key, but I think
20 I go through and talk about how each of the
21 reports could have facilitated coordinated
22 pricing decisions and output decisions.
23 BY MR. COLEMAN:
24 Q. Are you aware of any individual
25 transaction that you can point to where a

<p style="text-align: right;">Page 321</p> <p>1 defendant used an Agri Stats report as the 2 driver for the primary rationale for price 3 increase? 4 MR. RISSMAN: Object to form. 5 A. I don't know if we could go point 6 to a transaction, but we can definitely, and 7 we do, review episodes in which Agri Stats 8 identified a price-taking opportunity for a 9 participant, and the participant seizes and 10 exploits that information, and it's 11 conceivable we could go find out the affected 12 transactions. 13 But as you know that my -- my 14 price regression doesn't look at the effects 15 on any particular transaction. It's looking 16 at the effect during the totality of the 17 conduct period, you know, in relation to this 18 clean benchmark period beforehand. 19 BY MR. COLEMAN: 20 Q. Yeah. So when I reviewed the 21 evidence that you cited, I see a lot of 22 Agri Stats presenting sales reports that 23 identify, quote/unquote, pricing 24 opportunities. 25 So I see that, and I understand</p>	<p style="text-align: right;">Page 323</p> <p>1 were identified by Agri Stats for defendant 2 were seized upon. 3 I mean, that was the whole purpose 4 of subscribing to the -- the report. 5 Q. So certain defendants didn't 6 subscribe to Agri Stats sales reports for 7 long stretches of the conspiracy period, 8 right? 9 A. I had a table that, I think, shows 10 little check marks for which report who took 11 and of when, but I'm going to admit again 12 that I don't have it memorized. 13 Q. Why would it make sense for a 14 defendant not to subscribe to the Agri Stats 15 report if it's a member of the supposed 16 cartel? 17 MR. RISSMAN: Object to form. 18 Calls for speculation. 19 A. Well, I would want to look at the 20 series, but it's conceivable that you would 21 have someone who just came late to the party. 22 They just came -- there's a few years during 23 the conduct period they weren't yet in, and 24 eventually show up subscribing. 25</p>
<p style="text-align: right;">Page 322</p> <p>1 it's presented in your reports, and I see 2 some instances of executives that get the 3 reports and say, oh, yeah, we are not doing 4 well. We got to do better on our pricing, 5 you know, presumably raise the pricing. 6 What I don't see is any instance 7 of an individual defendant making a pricing 8 decision actually based on that information. 9 Right? 10 MR. RISSMAN: Object -- object 11 to form and just the narrative and 12 your characterization of the evidence. 13 BY MR. COLEMAN: 14 Q. Yeah. You can correct me if I'm 15 wrong, Dr. Singer. 16 Where's the evidence of a 17 defendant taking the Agri Stats pricing 18 information and adjusting their bid or using 19 it in a bid or raising their price list or 20 anything like that? 21 A. Well, I think I have a section 22 that describes how defendants came to rely on 23 the Agri Stats report for decision making. 24 And I think that it's also fair to infer 25 that -- that price-taking opportunities that</p>	<p style="text-align: right;">Page 324</p> <p>1 BY MR. COLEMAN: 2 Q. In your mind, would the 3 subscription of the Agri Stats sales report 4 be a key indicator of whether they were 5 participating in the cartel? 6 MR. RISSMAN: Objection. That 7 calls for a legal conclusion. 8 A. Well, you keep seizing on the 9 sales, and I will grant you, it was very 10 important. But I think that the other 11 reports were also helpful in facilitating 12 coordinated, you know, pricing or output 13 decisions. 14 I mean, the export report, for 15 example, would tell you whether your rivals 16 were abiding by an effort to move product out 17 of the domestic market so as to prop up 18 domestic prices. 19 If you saw someone's export ratio 20 plummet well below what the other firms were 21 doing, that would be an indication that they 22 weren't -- they weren't going along. 23 BY MR. COLEMAN: 24 Q. So if we want to know if a farm is 25 participating in the cartel, we would look at</p>

<p style="text-align: right;">Page 325</p> <p>1 subscription of sales report and the export 2 report; is that right? 3 MR. RISSMAN: Object to form. 4 That calls for a legal conclusion. 5 MR. COLEMAN: Actually not. 6 BY MR. COLEMAN: 7 Q. I'm interested in your economic 8 opinion. 9 MR. RISSMAN: Well, 10 participation -- if you're going to 11 quibble with me, participation in a 12 conspiracy is a legal question. 13 A. Yeah. So my criteria -- when you 14 think about the economic criteria that I 15 employ from the economic literature, you 16 know, monitoring like inducements. I mean, 17 these are -- these are elements that in 18 indicia that economists have come up with in 19 their study of cartels over time. These are 20 characteristics that consistent with. 21 And so I do -- I do highlight who 22 was subscribing to which report and when, but 23 I don't know if I would allow that table to 24 dictate at least my inference as to when 25 someone was participating, and, you know, I</p>	<p style="text-align: right;">Page 327</p> <p>1 to why someone was out and not in on a 2 particular report in a particular year. I'm 3 not offering an opinion on that. 4 BY MR. COLEMAN: 5 Q. If defendants are requested by a 6 grocery retailer, for example, to submit bids 7 to an RFP, do you have any opinion as to how 8 the Agri Stats reports would help them win 9 that business? 10 MR. RISSMAN: Objection. Calls 11 for speculation, and I will also, 12 again, instruct the witness to the 13 extent he has an opinion about that in 14 this case, he can -- he can give it. 15 A. Yeah. I think that -- implicit in 16 your question is that -- is that the buyers 17 have access to the Agri Stats reports, the 18 same level of granularity as the defendants. 19 I'm not sure that that's the case. 20 BY MR. COLEMAN: 21 Q. No. I actually -- yeah. We'll 22 assume that the buyers don't have any access 23 to the Agri Stats reports. So we've got the 24 defendants who are, you know, pork packers. 25 They're selling pork to a retailer or a</p>
<p style="text-align: right;">Page 326</p> <p>1 also just want to say that participating in 2 an agreement is something that's outside of 3 my domain again. 4 I'm just merely looking at 5 qualitative evidence that's consistent with 6 the economic criteria of a cartel. 7 BY MR. COLEMAN: 8 Q. Yeah. That's what I'm -- I'm 9 interested in is your assessment of the 10 record evidence as an economist, and when 11 you're looking at one or more firms that 12 aren't subscribing to the Agri Stats reports, 13 that would indicate to you as an economist 14 that they don't appear to be taking 15 advantages of the purported cartel, right? 16 MR. RISSMAN: Objection. I will 17 instruct the witness not to offer 18 opinions he's not offering in this 19 case. 20 BY MR. COLEMAN: 21 Q. You're not going to answer? 22 MR. RISSMAN: He can answer if 23 he has an opinion about that that he's 24 offered in this case. 25 A. I have not offered an opinion as</p>	<p style="text-align: right;">Page 328</p> <p>1 wholesaler, and the wholesale is asking them, 2 sharpen your pencil. We want your best 3 prices, you know, for a specified product 4 list. 5 Do you ever see any indication 6 that the packers were consulting the 7 Agri Stats reports to figure out how to 8 respond to that bid? 9 MR. RISSMAN: Object to form. 10 Incomplete hypothetical. 11 A. Sitting here, I don't know if I 12 put forward evidence of the use of Agri Stats 13 to -- to inform a bid to an RFP. 14 BY MR. COLEMAN: 15 Q. Do you have any opinion or theory 16 as to how Agri Stats would be useful for that 17 scenario? 18 A. I haven't formed an opinion on 19 that yet, no. 20 Q. Can we turn to Tab 61? 21 A. Sure. 22 Q. Tell me when you're there. 23 A. I'm there. 24 MR. COLEMAN: And, Jacob, if you 25 want to pull it up, we are on the</p>

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1 first page of the document.
 2 BY MR. COLEMAN:
 3 Q. So what's been marked as
 4 Exhibit 61 is a Clemens document that you
 5 cite in Footnote 259 of your report. But I'm
 6 interested in -- the Clemens document applied
 7 an industry overview. It talks about
 8 production. That's the third header down.
 9 It mentions that expansion of pork production
 10 is already in the works. Farrowing
 11 intentions, as reported by USDA, for this
 12 fall and winter are up 4 percent. Higher
 13 farrowings this fall should be palpable in
 14 the form of increased pork production in the
 15 spring of 2015.
 16 Do you see that?
 17 MR. RISSMAN: Take your time to
 18 look at the document and the footnote
 19 that it is cited in. You said 259, I
 20 think.
 21 THE WITNESS: Just one second.
 22 MR. RISSMAN: Yeah. Footnote
 23 259.
 24 BY MR. COLEMAN:
 25 Q. Tell me when you're ready.

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1 A. So I've read the three sub-bullets
 2 under production.
 3 Q. Yes. And the one I hadn't yet
 4 read into the record is the third one that
 5 said: Pork production expansion will
 6 continue into 2016, which will put downward
 7 pressure on prices. Right?
 8 A. Yes.
 9 Q. So at least in this period, which
 10 based on the dates referenced in the
 11 document, 2015 going into 2016, was the
 12 period of expanded pork production, right?
 13 MR. RISSMAN: Objection.
 14 Foundation. Assumes facts.
 15 A. Well, the document says pork
 16 production expansion will continue into 2016.
 17 So it suggests that at least for 2015, pork
 18 production was expanding.
 19 BY MR. COLEMAN:
 20 Q. And that's an internal Clemens
 21 document, right?
 22 A. Correct.
 23 Q. That's their assessment of what's
 24 happening in the marketplace in this -- in
 25 this period of time, right?

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1 MR. RISSMAN: Objection.
 2 Foundation.
 3 A. That's their assessment. I think
 4 that's fine, yes.
 5 BY MR. COLEMAN:
 6 Q. And you recognize that Clemens had
 7 announced a new plant in 2014, right?
 8 A. You will have to take me to that.
 9 I know you mentioned that earlier today. But
 10 is that in this document?
 11 Q. Are you aware of that fact?
 12 A. I don't know if I was aware of it,
 13 but you have mentioned that today, so I could
 14 either take your word for it.
 15 Do you think this document
 16 establishes that?
 17 Q. I don't know if it does or
 18 doesn't, but I'm interested in what you're
 19 aware of.
 20 A. Yeah. I haven't done a study of
 21 which plants were created by year.
 22 Q. Paragraph 78 of your report refers
 23 to the Seaboard Triumph plans being announced
 24 for a new plant being announced in 2015,
 25 right?

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1 A. Let me get to 78.
 2 So, yes, there's a 2015 press
 3 release that I mentioned about -- about the
 4 cost of starting a new plant of 264 million
 5 as indicative of high-entry rigors.
 6 Q. Right. And that was --
 7 notwithstanding that cost, Seaboard and
 8 Triumph committed to it -- to pay that price
 9 in that time period, 2014 and 2015, right?
 10 MR. RISSMAN: Objection.
 11 Foundation.
 12 A. Yes. They -- they brought that
 13 plant online, and is also consistent with the
 14 conspiracy to suppress output. It's -- the
 15 theory of harm is not that the restraints
 16 were going to set capacity to zero. It's
 17 that the capacity would be less than it
 18 otherwise would be.
 19 So episodes of capacity increasing
 20 during the conduct period does not disprove
 21 the plants' theory of harm.
 22 BY MR. COLEMAN:
 23 Q. So investing hundreds of millions
 24 of dollars in a new pork packing plant is
 25 consistent with the conspiracy to restrict

<p style="text-align: right;">Page 333</p> <p>1 the supply of pork; that's your opinion?</p> <p>2 A. It's not inconsistent. I think</p> <p>3 I'd put it that way. But the mere fact that</p> <p>4 a plant comes online during the conduct</p> <p>5 period doesn't disprove the theory of harm.</p> <p>6 Q. In any case, is the period 2014,</p> <p>7 2015, which we have at least two defendants</p> <p>8 announcing new packing plants and in the</p> <p>9 Clemens document in Tab 61, we see it's also</p> <p>10 a period of expanded pork production and hog</p> <p>11 production, right?</p> <p>12 MR. RISSMAN: Object to form.</p> <p>13 A. I mean, that's what the</p> <p>14 document -- this Clemens document says, that</p> <p>15 pork production expansion will continue into</p> <p>16 2016. It is what the document says.</p> <p>17 BY MR. COLEMAN:</p> <p>18 Q. When you looked at the data of</p> <p>19 what happened to the supply of pork, did you</p> <p>20 observe significant increases in supply in</p> <p>21 the period from 2014 to 2018?</p> <p>22 A. I mean, it's possible I came</p> <p>23 across production data, but I wasn't trying</p> <p>24 to model production. I think that other</p> <p>25 experts may have modeled production as their</p>	<p style="text-align: right;">Page 335</p> <p>1 the statute of limitations, as I understand</p> <p>2 it. So there's not an economically</p> <p>3 significant phenomenon that would cause me to</p> <p>4 think that you would want to treat 2014</p> <p>5 special. It's just as far back as plaintiffs</p> <p>6 could go to recover damages.</p> <p>7 So the start date for the conduct</p> <p>8 period is 2009, and I wouldn't expect there</p> <p>9 to be differences from 2009 to '14 from, say,</p> <p>10 2014 to 2018. Once you control for all other</p> <p>11 things, it will explain pork prices at the</p> <p>12 time.</p> <p>13 Q. Well, we have new plant and</p> <p>14 expanded hog production and significant</p> <p>15 increases and overall pork production in that</p> <p>16 period of 2014 to 2018, right?</p> <p>17 A. Well, if you are right --</p> <p>18 MR. RISSMAN: Object to form.</p> <p>19 It assumes facts not in evidence.</p> <p>20 A. If you're right that capacity is</p> <p>21 increasing from '14 to '18, then that should</p> <p>22 put downward pressure on prices, and if</p> <p>23 that -- and if that occurred, then the</p> <p>24 conduct parameter would have the opposite</p> <p>25 sign of the sign that I observed, which was</p>
<p style="text-align: right;">Page 334</p> <p>1 dependant variable, their key lens through</p> <p>2 which the harm would have manifested itself.</p> <p>3 I'm looking at pricing.</p> <p>4 Q. And I think we've established</p> <p>5 this, but just to revisit, did you do any</p> <p>6 analysis to assess what happened to the price</p> <p>7 of class products specifically in that period</p> <p>8 of 2014 to 2018?</p> <p>9 A. What happened to class products</p> <p>10 between 2014 and '18?</p> <p>11 Q. Yeah, the price of those products.</p> <p>12 A. Sorry. Of which products?</p> <p>13 Q. The class products. Pork products</p> <p>14 that you have included -- defined as class</p> <p>15 products.</p> <p>16 A. So 2014 to 2018 is inside the</p> <p>17 conduct period. It's also inside the class</p> <p>18 period. So I absolutely analyzed the price</p> <p>19 of those products.</p> <p>20 Q. And I am interested in</p> <p>21 specifically whether you focused on the</p> <p>22 overcharge for those products in that period</p> <p>23 between 2014 and 2018?</p> <p>24 A. I didn't treat those differently.</p> <p>25 You know, the 2014 start date is limited by</p>	<p style="text-align: right;">Page 336</p> <p>1 positive and statistically significant.</p> <p>2 So something doesn't add up in</p> <p>3 your story, and I think that looking at the</p> <p>4 capacity is perfectly reasonable, but I don't</p> <p>5 think that whatever episodes you're pointing</p> <p>6 to was enough to negate inflationary effect</p> <p>7 of the conduct on prices.</p> <p>8 BY MR. COLEMAN:</p> <p>9 Q. Well, it would -- one way you</p> <p>10 would know would be to isolate that period of</p> <p>11 2014 to 2018 and analyze whether there was an</p> <p>12 overcharge specifically in that period,</p> <p>13 right?</p> <p>14 A. No. I wouldn't do it that way. I</p> <p>15 think that you might be able to convince me</p> <p>16 to consider a measure of capacity as a</p> <p>17 further control variable, but I wouldn't want</p> <p>18 to go looking for arbitrary structural</p> <p>19 breaks, just applying the Chow test</p> <p>20 willy-nilly because economists know that you</p> <p>21 will -- you will get wrong inferences that</p> <p>22 way.</p> <p>23 And with the caveat, of course,</p> <p>24 that when you bring something like capacity</p> <p>25 in on the right-hand side of a reduced form</p>

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1 price regression, you could be engendering
2 endogeneity, so you have to be careful about how
3 that enters the model.

4 Q. I'm interested not just in
5 capacity, but that we know -- we have the
6 fact of capacity -- we have increased pork
7 production in that period, and I'm interested
8 in whether you see any merit in analyzing
9 that period of 2014 to 2018 --

10 A. Not --

11 Q. -- the total class period?

12 A. No, no, not separately because we
13 don't -- we don't believe that the conduct --
14 the challenged conduct has changed during
15 those period. Agri Stats is still putting
16 out the same kind of information-sharing rig
17 as it was in the prior years.

18 So I'm gently pushing back on the
19 notion of treating those years as distinct
20 for the purposes of the economic model. I
21 think that -- that if you thought there were
22 significant shifts in the supply that my
23 model wasn't accounting for, those are the
24 types of variables you could bring it, but I
25 would be very loathed to estimate separate

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1 effects in those years.

2 Q. We talked about, you know, the
3 fact that cartels can fracture with cheating
4 based on the incentives of individual firms,
5 and why -- wouldn't you have expected to see
6 with Clemens or Seaboard Triumph operating
7 new plants, other members of the cartel
8 expressing some angst that the cartel members
9 are blowing open an agreement to restrict
10 pork supply by significantly increasing
11 capacity?

12 MR. RISSMAN: Object to form.

13 A. Well, I'm sure that competitors
14 don't like to see rivals increasing capacity.
15 All things equal, they consider that to be a
16 bad thing. But I don't know if any of them
17 are in a position to stop all capacity
18 increases.

19 What -- what is being alleged here
20 is that there was a drawdown through various
21 means, the three mechanisms that we talked
22 about, in addition to just raising prices
23 generally that reduced capacity relative to
24 what it would have been in the absence of the
25 challenged conduct.

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1 BY MR. COLEMAN:

2 Q. What are the three mechanisms to
3 reduce --

4 (Simultaneous unreportable
5 crosstalk.)

6 A. It's a marginal effect. It's not
7 a wipeout capacity.

8 Q. One of the three levers of the
9 purported cartel was reducing the harvest of
10 hogs, right?

11 A. Right.

12 Q. And building a new plant and
13 increasing the harvest of hogs is
14 fundamentally at odds with that mechanism of
15 the cartel, right?

16 MR. RISSMAN: Objection. Asked
17 and answered.

18 A. I mean, when viewed in isolation,
19 it's certainly not helpful, but the fact that
20 there were some capacity -- some plants
21 brought online during, you know, this huge
22 period, 2009 to 2020 -- you know, the fact
23 that you can point to a plant coming online
24 doesn't -- doesn't lead me to believe that
25 that is dispositive and therefore, their --

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1 you know, the plaintiff's theory of harm must
2 be rejected. That would be an overreaction
3 to that effect.

4 Q. Yeah. That might be true. But I
5 would expect to see other members of this
6 cartel, if it existed, expressing
7 consternation that the participants in the
8 cartel are significantly increasing capacity
9 in violation of how the cartel functioned
10 over time, right?

11 MR. RISSMAN: Object to form.
12 And calls for speculation.

13 A. You might expect to see that, and
14 maybe -- maybe it's somewhere in the record
15 evidence those -- those three reactions. I
16 haven't studied the defendants' reactions to
17 these episodes of new plant openings.

18 MR. COLEMAN: Why don't we take
19 a break. I think I may be close to
20 done. I am probably close to done on
21 the time anyway.

22 MR. RISSMAN: Yeah, you got
23 13 minutes.

24 MR. COLEMAN: Oh, okay. So
25 really close. So, yeah, I will take a

<p style="text-align: right;">Page 341</p> <p>1 break and see if there's any wrap-up. 2 THE VIDEOGRAPHER: The time is 3 5:48 p.m. We are going off the 4 record. 5 (A brief recess was held from 5:48 6 p.m. to 5:56 p.m.) 7 THE VIDEOGRAPHER: The time is 8 5:56 p.m. We are back on the record. 9 BY MR. COLEMAN: 10 Q. This is our last question or 11 couple of questions. I would like to know 12 what you did to prepare for the deposition 13 today. 14 A. Right. So I met with my staff to 15 review certain questions that I had. Met 16 with counsel. And I went back and read my 17 report. 18 Q. And how long did you meet with 19 staff -- 20 A. I don't know if I -- yeah. 21 Q. -- for preparation of the 22 deposition? 23 A. I don't know if I have a good 24 estimate of hours. You know, I would say 25 hours. And sometimes it's just a phone call</p>	<p style="text-align: right;">Page 343</p> <p>1 would like to do that now, that would be 2 great. 3 A. Yeah, that's great. It's just a 4 handful, but as I was reading through it the 5 last few days, I just spotted a few things 6 that didn't make it into the errata, so I'll 7 go through this very quick. 8 Paragraph 112, I used the word 9 "below" -- I should have used the word 10 "below" instead of "above." It's when 11 identifying pricing opportunities, and 12 Smithfield was below the average, not above 13 the average. 14 Q. Okay. 15 A. In Paragraph 114, I would like to 16 amend a line about what the Clemens data -- 17 what can and cannot inform. Let me get to 18 Paragraph 114. 19 Sorry. Give me one second. It's 20 in the regression section. 21 Q. Is that Page 114? 22 A. It was Page 114. I apologize. 23 It's in the middle of the page. It is 24 talking about what we can and cannot do with 25 Clemens data.</p>
<p style="text-align: right;">Page 342</p> <p>1 for me to -- you know, to a case manager 2 asking him a question. 3 Q. How long did you meet with 4 counsel? 5 A. I think we had one session that 6 was about an hour, and another session that 7 was about two hours. 8 Q. And how long did you spend 9 reviewing your report in preparation for the 10 deposition? 11 A. I know -- I think it's easier to 12 give it to you in days than hours, but I 13 think that there were several days of 14 reviewing the documents and the report. It's 15 a long report. 16 MR. COLEMAN: Okay. I have no 17 further questions. 18 MR. RISSMAN: Dr. Singer, I do 19 just have one question for you. 20 CROSS-EXAMINATION 21 BY MR. RISSMAN: 22 Q. I understand there are -- outside 23 of the errata that you've already issued, 24 there are a few additional errata that you 25 wanted to put on the record. And if you</p>	<p style="text-align: right;">Page 344</p> <p>1 And the line that begins: This 2 means the defendants' Clemens data cannot -- 3 and it should read: Directly inform the 4 conduct parameter but will still contribute 5 indirectly to informing the other parameters 6 in the model with or without 7 defendant-specific fixed effects. 8 So the line as -- as it was 9 written could create the impression that it's 10 only informing these other parameters without 11 defendant-specific fixed effects, and it 12 turns out that the Clemens data, despite the 13 fact it only shows up during the conduct 14 period, is indirectly informing the conduct 15 parameter via its influence on all the other 16 parameters in the model, and that's true with 17 or without fixed effects. 18 And that's true as a theoretical 19 matter, but also we've now run a model where 20 you just take Clemens out using fixed 21 effects -- defendant fixed effects, and the 22 conduct parameter changes. 23 So it's one way of saying that the 24 defendant -- the Clemens data is informing, 25 albeit indirectly, the conduct parameter</p>

<p style="text-align: right;">Page 345</p> <p>1 despite the fact that it only shows up during 2 the conduct period. 3 And if I wasn't clear about that, 4 feel free to ask me any follow-on, but I 5 didn't think the sentence as written here was 6 correct. 7 There's a similar and related 8 issue in, I think it is Paragraph 193 where I 9 create the impression that Clemens is only 10 indirectly informing the conduct parameter in 11 the model without fixed effects, and it turns 12 out it's also indirectly informing the 13 conduct parameter even in the model with 14 defendant -- fixed effects. 15 That's Paragraph 193. Let me just 16 double check. Yes. 17 In the middle -- in the middle of 18 Paragraph 193 on Page 151, it says: However, 19 its conduct period data does contribute to 20 the conduct coefficient in Table 12, Model 1, 21 which does not use any fixed effects -- 22 "effects" is misspelled. But it's -- more 23 importantly, it actually is informing the 24 conduct parameter indirectly in every model 25 in Table 12, including those that used</p>	<p style="text-align: right;">Page 347</p> <p>1 THE VIDEOGRAPHER: So if there 2 are no further questions, the time is 3 6:03 p.m. This concludes today's 4 deposition. 5 (Thereupon, the proceedings 6 concluded at 6:03 p.m.) 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>
<p style="text-align: right;">Page 346</p> <p>1 defendant fixed effects. 2 And then, finally, in 3 Paragraph 175 is the last one. It's a small 4 one, but it's important. The last line of 5 175 reads: You know, which is consistent 6 with economic theory that predicts that a 7 hundred percent of marginal cost increases 8 would be passed through to end users, and I 9 should have said in a competitively supplied 10 industry. 11 And, of course, the pass-through 12 rate is not a hundred percent in all cases. 13 So I left out an important caveat in that -- 14 in that line. 15 So those were -- those were things 16 that I just caught in my last read-through, 17 and, Mr. Coleman, if you wanted to ask me 18 follow-ons -- I realize I'm hitting you with 19 that now, but I didn't want to take away from 20 your time today. 21 MR. COLEMAN: I don't have any 22 further questions about that. 23 MR. RISSMAN: Okay. I think 24 we're done. 25 We'll read and sign.</p>	<p style="text-align: right;">Page 348</p> <p>1 CERTIFICATE OF REPORTER 2 3 UNITED STATES DISTRICT COURT) 4 DISTRICT OF MINNESOTA) 5 6 I, ERICA FIELD, Stenographic Reporter, 7 certify that I was authorized to and did 8 stenographically report the deposition of HAL 9 SINGER, pages 1 through 347; that a review of 10 the transcript was requested; and that the 11 transcript is a true and complete record of 12 my stenographic notes. 13 I further certify that I am not a 14 relative, employee, attorney, or counsel of 15 any of the parties, nor am I a relative or 16 employee of any of the parties' attorney or 17 counsel connected with the action, nor am I 18 financially interested in the action. 19 20 DATED this 28th day of June, 2022. 21 22 _____ 23 Erica Field 24 25</p>

1 ERRATA SHEET
DO NOT WRITE ON TRANSCRIPT - ENTER CHANGES
2 HERE
IN RE: Pork Antitrust Litigation
3 CASE NO. 0:18-CV-01776-JRT-HB
WITNESS: HAL SINGER
4 TAKEN: 06/24/2022
5 PAGE LINE CHANGE REASON FOR CHANGE
6 _____
7 _____
8 _____
9 _____
10 _____
11 _____
12 _____
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14 _____
15 _____
16 _____
17 _____
18 _____
19 _____
20 _____
21 _____
22 _____
23 Under penalties of perjury, I declare
that I have read the foregoing document and
24 that the facts stated in it are true.
25 _____
Date Hal Singer

<hr/> <p style="text-align: center;">\$</p> <hr/> <p>\$2 156:11 157:14,19 159:12</p> <p>\$6 160:11,15,22 161:17</p> <hr/> <p style="text-align: center;">0</p> <hr/> <p>04 171:6</p> <p>05 171:6,21</p> <p>09 166:12,24</p> <hr/> <p style="text-align: center;">1</p> <hr/> <p>1 4:9 6:2,3 27:4 112:25 124:16,20 175:4 194:23 205:25 249:7 289:19 291:20 345:20</p> <p>1.3 209:9</p> <p>10 145:9 163:8 166:12,24 239:6</p> <p>100 21:6 23:14</p> <p>104 213:3</p> <p>105 4:10</p> <p>1050 3:8</p> <p>11 216:14 241:11</p> <p>112 343:8</p> <p>114 343:15,18,21,22</p> <p>119 183:13,17,18</p> <p>11:05 84:14,15</p> <p>11:21 84:16,18</p> <p>12 241:12 270:1 272:18 273:18,21 279:23 345:20,25</p> <p>12.4 289:12,13,14</p> <p>12.8 248:23 249:11 289:6</p> <p>121 4:11</p> <p>125 270:1</p> <p>12:54 163:12,15</p> <p>12th 207:6</p> <p>13 340:23</p> <p>130,000 235:7 236:25</p> <p>134 153:19</p> <p>136 300:10</p> <p>139 4:12</p>	<p>14 278:4 335:9,21</p> <p>15 18:21 163:8</p> <p>151 244:21,25 245:14 248:19 345:18</p> <p>152 4:12</p> <p>153 285:22 286:5</p> <p>155 282:14</p> <p>156 273:7 279:4</p> <p>158 279:21</p> <p>160 231:6 266:17,18,19 267:17 271:17</p> <p>164 262:13 278:6,7</p> <p>167 194:19,24 195:19</p> <p>16th 209:7</p> <p>175 346:3,5</p> <p>18 4:9 145:4,9 334:10 335:21</p> <p>181 291:7 298:5,9</p> <p>191 6:12</p> <p>192 267:12,20,22,23,24</p> <p>193 267:21 345:8,15,18</p> <p>1994 214:7</p> <p>1995 205:23</p> <p>1998 160:8</p> <p>1999 160:8</p> <p>1:30 151:18</p> <p>1:41 163:15,17</p> <hr/> <p style="text-align: center;">2</p> <hr/> <p>2 4:9 18:9,10,16 26:25 27:22 32:10,19 37:12,14 52:24 55:2,5 139:18 156:23 279:23,24</p> <p>2.9 209:9</p> <p>20 148:24 149:11,21,23 150:19 151:5 269:16</p> <p>20,000 235:10 237:11</p> <p>2002 206:2</p> <p>2003 207:3</p> <p>20036 3:8</p> <p>2004 170:25</p> <p>2005 170:25 171:18 174:8 175:4,17 208:13 213:23 244:19</p>	<p>2007 209:6,25</p> <p>2008 69:10,13 70:4,7,16 154:4 155:17,24 160:4,6 171:2 213:23 244:19</p> <p>2009 57:17 69:5,8 95:5,24 121:22 124:20 125:9,23 156:6,22 159:2,6 160:4,6,9 164:19 170:17 171:22 173:14 174:3 214:8 230:2 235:7,10, 13,21 236:4,12,16 237:8,11 238:14 247:20 248:24 249:7 300:6 303:9 315:5 335:8,9 339:22</p> <p>2010 164:19 173:14 246:20 248:2,5 249:20 252:6</p> <p>2012 6:14,16 231:14 241:1</p> <p>2014 220:23 221:2 223:18 224:6 252:14 331:7 332:9 333:6,21 334:8, 10,16,23,25 335:4,10,16 336:11 337:9</p> <p>2015 252:14 329:15 330:11,17 331:24 332:2,9 333:7</p> <p>2016 195:8 330:6,11,16 333:16</p> <p>2018 95:5,24 196:20 216:9 247:21 248:24 300:6 303:9 333:21 334:8,16, 23 335:10,16 336:11 337:9</p> <p>2019 198:14</p> <p>202 887-3756 3:9</p> <p>2020 174:5 216:14 339:22</p> <p>2021 145:16</p> <p>2022 5:4</p> <p>21 295:14 297:8</p> <p>210 231:15,21 237:15</p> <p>211 231:9</p> <p>212 231:9 235:4 236:9,10</p> <p>213 65:21</p> <p>217 195:18</p> <p>219 195:2,18,19,20 196:5 199:23</p> <p>22 297:8</p> <p>2200 3:17</p> <p>23 20:9 267:13,20 268:3 275:15</p> <p>24 5:4 153:2,4 160:10</p> <p>25 84:9 277:12,19,21</p> <p>25.7 124:24 125:14</p> <p>259 329:5,19,23</p> <p>26 151:22 160:11</p>
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